Trinity County
Hazard Mitigation Plan

DRAFT
August 2016

Trinity County Planning Department
PO Box 2819
Weaverville, CA 96093

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Executive Summary

The purpose of multi-jurisdictional hazard mitigation plan is to reduce or eliminate long-term risk to people and property from hazards. The two jurisdictions covered by this plan are Trinity County and Humboldt Bay Municipal Water District (HBMWD). While it serves customers in Humboldt County, the HBMWD receives water supplies from the R.W. Matthews Dam, located in Trinity County, which it owns and operates. The plan was developed to make the County and its residents less vulnerable to future hazard events. This plan was prepared following the requirements of the Disaster Mitigation Act of 2000 so that Trinity County and HBMWD would be eligible for the Federal Emergency Management Agency's (FEMA) Pre-Disaster Mitigation and Hazard Mitigation Grant programs as well as lower flood insurance premiums (in jurisdictions that participate in the National Flood Insurance Program's Community Rating System).

The County and HBMWD followed a planning process prescribed by FEMA, which began with the formation of a hazard mitigation planning steering committee comprised of key county and district representatives and other stakeholders.

The steering committee conducted a risk assessment that identified and profiled hazards that pose risks, with input from the public through meetings and surveys. Multiple public meetings were held and attended, to gain input from a wide variety of county residents.

Vulnerability to these hazards was assessed and possible mitigation actions reviewed and prioritized. The County is vulnerable to several hazards that are identified, profiled, and analyzed in this plan. Wildfires, severe weather, floods and drought are among the hazards that can have a significant impact on the County. Due to the isolated nature of many populations within the County, loss of communications is addressed as a hazard within the plan as well.

Based on the assessments, the steering committee identified goals and objectives for reducing vulnerability to hazards. The four goals of this plan are:

Goal 1: Significantly reduce injuries and loss of life.

Goal 2: Minimize damage to structures and property, as well as disruption of essential services and human activities.

Goal 3: Protect the environment.

Goal 4: Promote hazard mitigation as an integrated public policy and as a standard business practice.

This plan will be formally adopted by the County and the HBMWD and will be updated every five years at a minimum.

Chapter 1: Planning Process

ELEMENT A: PLANNING PROCESS
Requirement
§201.6(b) An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

A1. §201.6(c)(1) The Plan shall document the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

A2. §201.6(b)(2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and

A3. §201.6(b)(1) and §201.6(c)(1) The Plan shall document how the public was involved in the planning process during the drafting stage and prior to plan approval;

A4. §201.6(b)(3) Review and incorporation, if appropriate, of existing plans, studies, reports and technical information.

The Disaster Mitigation Act of 2000 (DMA 2000) was designed to improve the hazard mitigation planning process. Prior to the act, federal legislation provided funding for disaster relief, recovery, and some hazard mitigation planning. DMA 2000 reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur. As such, this Act establishes a pre-disaster hazard mitigation program and new requirements for the national post-disaster Hazard Mitigation Grant Program.

The Trinity County Board of Supervisors recognized the need and importance of creating a Hazard Mitigation Plan and was responsible for its initiation and for securing funding. The County contracted with Trinity County Resource Conservation District (TCRCD) to facilitate and develop a multi-jurisdictional, multi-hazard mitigation plan. TCRCD's role was to:

- Gather support for the Hazard Mitigation Plan prior to the initial meeting
- Assist in establishing a Hazard Mitigation Steering Committee (SC) for the County that incorporates key stakeholders and representatives from each participating jurisdiction
- Meet all of the planning requirements of the Disaster Mitigation Act (DMA) as established by federal regulations and following FEMA's planning guidance
- Facilitate the planning process
- Identify the data requirements that the SC can provide and conduct the research and documentation necessary to augment that data
- Develop and facilitate the public input process
- Produce the draft and final plan documents
- Coordinate the California Emergency Management Agency (CalEMA) and FEMA Region IX reviews of the plan and its formal adoption by the Trinity County Board of Supervisors and the governing bodies of each participating jurisdictions

The remainder of this chapter provides a narrative description of the steps taken to prepare the Hazard Mitigation Plan.

1.1 Multi-jurisdictional Participation

Trinity County invited all county special districts, volunteer fire departments, and communities to join in the planning process, with the option of joining the plan as a unique jurisdiction. The TCRCD representative attended meetings of the Trinity County Fire Chief's Association, Trinity County Fire Safe Council, and Trinity Healthcare Preparedness Partners prior to the initial meeting in order to gather support for the plan. An email invitation was sent to representatives from the Trinity County Office of Education, US Forest Service District Ranger and Fire suppression specialist, Weaverville Fire Department, Fire Chief's Association, Human Response Network, Trinity County Board of Supervisors, Sheriff's, Planning, and Health and Human Services Departments, Cal Trans, US Bureau of Reclamation, Humboldt Bay Municipal Water District, CalOES, Trinity Public Utilities District, Trinity County Life Support, Southern Trinity Area Rescue, and UC Cooperative Extension Forestry department.

In addition to the above listed emails, invitations were mailed to all special districts in the county. The initial meeting was held on November 6, 2013. The Steering Committee (SC) was formed at the November 6, 2013 meeting. Since that meeting, a few more members were added to the Steering Committee. Current members of the Steering Committee are listed in Table 1.1. All planning team members participated in all planning activities.

All invitations, agendas and sign-in sheets are shown in Appendix A.

Table 1.1

Steering Committee Member	**Affiliation**
Scott Alvord WVFD Chief	Weaverville Volunteer Fire Department& Trinity County Fire Chief's Association
Karl Fisher County Board Member	Trinity County Board of Supervisors, District 3
Andy Lethbridge Superintendent	Trinity Public Utilities District
Frank Lynch Senior Planner	Trinity County Planning Department
Frank Moore District Representative	Hyampom Community Services District
Eric Palmer *(after January 2014; Larry Masterman prior to 2014) OES Manager*	Trinity Office of Emergency Services Manager and Lead of Trinity County Disaster Council
Megan Blanchard Public Health Nurse	Trinity County Public Health
Kathy Ratliff EMT	Trinity County Life Support, Trinity Healthcare Preparedness Partners
Andy Reiling Battalion Chief	CalFire
Wes Scribner Manager	Weaverville Community Service District (Water)
Wendy Tyler CAO	Trinity County Administrative Officer

Steering Committee Member	Affiliation
Christine Zoppi Director	Trinity County Health and Human Services
John Friedenbach Business Manager	Humboldt Bay Municipal Water District

Initial response from Trinity County Community Service Districts, Volunteer Fire Departments, communities and all who were notified of the initial public planning meeting indicated that none chose to participate as a separate jurisdiction. All jurisdictions with offices residing in the county chose to be represented under the umbrella of the County.

The County was contacted by Humboldt Bay Municipal Water District (HBMWD) in late 2013 regarding the Hazard Mitigation Plan and the inclusion of HBMWD as a jurisdiction in regards to Matthews Dam. They were invited to the November meeting but were unable to attend due to the long travel distance. After several phone calls and emails, it was clarified by CalOES in May 2014 that HBMWD should be included as a separate jurisdiction in the Trinity County Plan. Because of the unique situation, with personnel offices located in Eureka and the dam in southern Trinity County, the Steering Committee is not requiring a representative from HBMWD to attend any set number of meetings. Communications will be by phone and email as needed. HBMWD will be required to meet all FEMA requirements in creating an Annex to the Plan.

1.2 Organizing Resources

During the kickoff meeting in November, TCRCD presented information on the scope and purpose of the plan, participation requirements of SC members, and the proposed project work plan and schedule. Plans for public involvement and coordination with other agencies and departments were discussed. Discussion included past events and impacts, and future probability for each of the hazards required by FEMA for consideration in a local hazard mitigation plan. A survey was distributed to all attendees to gage their perception of hazards for risk assessment in Trinity County. The attendees answered all of the survey questions, but also gave feedback on the survey itself, for use as a public survey to gain public input on risk assessment. Results from the public survey are discussed in Chapter 3: Hazard Identification and Risk Assessment.

1.3 Public Involvement

Due to Trinity County's small population and large geographic area, the number of available people who participate in organized, community benefit meetings are limited. With this in mind, the Trinity County HMP Steering Committee agreed that it would benefit the county's planning process to attend already established organizational meetings. A list of all meetings and organizations are listed in Table 1.2 at the end of this chapter. The public was invited to participate in the drafting of the plan through an initial press release in the local newspaper – see Appendix A, page A-17. Notices were also posted on the County website and the Trinity County RCD website. All available meeting materials, agendas, minutes, and any other pertinent information from these meetings are in Appendix A.

Information on the Plan was distributed at the 2013 and 2014 Trinity County Fair and members of the public who stopped at the TCRCD booth were encouraged to give feedback and sign up for email notifications to participate in drafting of the plan.

Additionally, a public survey was posted on the Trinity County website to gather input on perceived hazards. The survey was available for two months online. A paper survey was also distributed to interested parties including the attendees at the February 2014 Hyampom Community Service District's meetings and the Mad River public meeting. A total of 87 surveys were completed. As mentioned previously, survey results are discussed in Chapter 3 and all results and analysis are in Appendix B.

On behalf of the Trinity County Board of Supervisors, we'd like to thank the following organizations and their members for their support of, and participation in, the Trinity County Local Hazard Mitigation Planning process:

- American Red Cross
- Cal OES
- CalFire
- Hyampom Community Service District
- Trinity County Disaster Council
- Trinity County Fire Chief's Association
- Trinity County Fire Safe Council
- Trinity County Office of Education
- Trinity Healthcare Preparedness Partners (THPP)
- Trinity Public Utilities District
- USFS, Shasta-Trinity
- Weaverville Community Service District

1.4 Review of Existing Plans

The following plans were used in preparing the Trinity County Hazard Mitigation Plan:

- California State Multi-Hazard Mitigation Plan
- CalTrans District 2 Emergency Plan
- Trinity County Climate Adaptation Plan
- Trinity County Community Wildfire Protection Plan
- Trinity County Emergency Operations Plan
- Trinity County General Plan
- Trinity County Safety Element

The following chapters of this Plan reference each existing plan as it is used.

Table 1.2 Meetings held and/or attended during drafting and completion of the Plan.

Meeting and/or Organization	Date	Meeting Location
Hazard Mitigation Public Meeting 1 and Steering Committee formation	November 6, 2013	TPUD Community Room
Hazard Mitigation Public Meeting 2	January 16, 2014	Weaverville Fire Hall
Hazard Mitigation Public Meeting 3	February 21, 2014	Mad River Senior Center
Hazard Mitigation Steering Committee Meeting 1	December 5, 2013	TCRCD Conference Room
Hazard Mitigation Steering Committee Meeting 2	January 9, 2014	TCRCD Conference Room
Hazard Mitigation Steering Committee Meeting 3	January 28, 2015	TPUD Community Room
Humboldt Bay Municipal Water District	February 21, 2014	Mad River Public Meeting
Humboldt Bay Municipal Water District	Continuing multiple communications	Email and phone conversations
Hyampom Community Service District Public Meeting 1	February 11, 2014	Hyampom Community Center
Hyampom Community Service District Public Meeting 2	February 12, 2014	Hyampom Community Center
Trinity County Disaster Council	November 20, 2013	OES office
Trinity County Disaster Council	March 12, 2014	OES office
Trinity County Disaster Council	May 14, 2014	OES office
Trinity County Disaster Council	January 7, 2015	OES Office
Trinity County Disaster Council Drought Sub-committee	January 28, 2015	OES Office
Trinity County Fair	August 7-9, 2013	Fairgrounds TCRCD Booth
Trinity County Fair	August 8-10, 2014	Fairgrounds TCRCD Booth
Trinity County Fire Chief's Association	September 9, 2013	Weaverville Fire Hall
Trinity County Fire Chief's Association	February 3, 2014	Weaverville Fire Hall
Trinity County Fire Chief's Association	April 7, 2014	Weaverville Fire Hall
Trinity County Fire Chief's Association	May 5, 2014	Weaverville Fire Hall
Trinity County Fire Chief's Association	January 5, 2015	Weaverville Fire Hall
Trinity County Fire Safe Council	September 26, 2013	TCRCD Conference Room
Trinity County Fire Safe Council	November 21, 2013	TCRCD Conference Room

Meeting and/or Organization	Date	Meeting Location
Trinity County Fire Safe Council	January 23, 2014	TCRCD Conference Room
Trinity County Fire Safe Council	March 27, 2014	TCRCD Conference Room
Trinity County Fire Safe Council	December 4, 2014	TCRCD Conference Room
Trinity County Office of Education, Administrators Meeting	April 29, 2014	TCOE Conference Room
Trinity County Office of Emergency Services	Multiple individual meetings	OES Office
Trinity Healthcare Partners Preparedness	September 9, 2013	Hospital
Trinity Healthcare Partners Preparedness	October 7, 2013	Hospital
Trinity Healthcare Partners Preparedness	November 4, 2013	Hospital
Trinity Healthcare Partners Preparedness	January 13, 2014	Hospital
Trinity Healthcare Partners Preparedness	April 21, 2014	Hospital
Trinity Healthcare Partners Preparedness	February 4, 2015	Human Response Network
Weaverville Community Services District	November 26, 2013	CSD Office

Chapter 2: Planning Area Profile

2.1 Regional Description

2.1.1 Trinity County

Trinity County is 3,222 square miles located in the rugged terrain of the northwestern mountains of California. It is bordered on the north by Siskyou County, on the east by Shasta and Tehama Counties, on the south by Mendocino County and on the west by Humboldt County. It is sparsely populated and there are no incorporated cities in the county.

Trinity County terrain varies from river valleys to high mountain peaks, with elevation ranging from 600 to 9,025 feet. Several deep river canyons traverse the county and the resulting dissected relief has steep slopes. This rugged geography imposes restrictions on the population including limited development, isolation during disasters, long travel times, difficult road conditions and spotty communication coverage.

The county has four distinct seasons. Summers are mild with most days in the 90s and cool evenings in the 50s. The summers tend to be clear, sunny, warm, and very dry, with little rain from June to September except for some thunderstorms in the highest elevations. These are prime conditions for wild land fires. Snow falls occasionally and lasts for only a few days below 3300 ft. elevation, but lingers for months in the higher elevations. The winters tend to have copious precipitation, falling mostly as rain under 3300 ft. and mostly as snow above 3300 ft. December, January, and February are the wettest months.

Rivers and reservoirs define large sections of the county. Dams on the Trinity River form the Trinity and Lewiston Lake reservoirs, which attract recreational users and seasonal vacation residences. The flow of the Trinity River below Lewiston Dam is adjusted each year based on a formula designed to restore the fisheries in the river. The North Fork Trinity River, New River, and South Fork Trinity River are major tributaries that join the mainstem before it merges with the Klamath River, approximately 20 miles from the Pacific Ocean. The other principal rivers in the county are the Mad, Van Duzen and Eel, all of which flow northwestward in roughly parallel courses.

The majority of the county (75%) is under some form of public ownership, including the Trinity Alps, Chanchelulla and Yolla Bolly Wilderness areas, the Shasta-Trinity and Six Rivers National Forests, Bureau of Land Management, Bureau of Reclamation, and various state and county entities. Another 12 percent is zoned for timber use, i.e. corporate timber holdings, or held in agriculture land-conservation contracts. It is a land of great scenic beauty, with many rugged peaks, wooded mountains and swift streams.

2.1.2 Humboldt Bay Municipal Water District

The R.W. Matthews Dam, owned and operated by the Humboldt Bay Municipal Water District (HBMWD), is located on the Mad River approximately 80 miles upstream from the mouth of the river (Sect. 19, T. 1 S, R 7 E, H. B. & M.). R.W. Matthews Dam forms Ruth Lake in southern Trinity County. It impounds runoff from the upper quarter of the Mad River basin, an area of approximately 121 square miles. Its capacity is 48,030 acre-feet (AF). See the Jurisdictional Annex, Chapter 6, for complete HBMWD information.

2.2 Land Use

Some land in Trinity County is unavailable for development because of environmental features. These features either pose a hazard to those who may choose to build in the area or diminish valuable resources. As a result, builders avoid these areas because of the danger involved or do not wish to incur the added cost of building in these areas. These features include geologic hazards, soils with low permeability, and excessive slopes.

These constraints affect land use categories that can accommodate single-family residences. In most cases, the presence of these constraints will not preclude development of a single-family home somewhere on larger properties, but may limit the placement of a home on a parcel of an acre or less. Environmentally constrained lands may also limit the subdivision potential of some parcels. Examples of constraints are:

- Geologic Hazards - The most common geologic hazard that must be considered in Trinity County is the potential for wet season landslides and rock falls where man has altered natural conditions. Soils on slopes of up to 50 percent contain the combination of factors that could pose landslide problems when man's activities are superimposed on natural conditions.

- Soils with low permeability rates - Most parts of the county are not served with public sewer systems; and therefore, must rely on septic systems. In some parts of the county, septic systems cannot be used because the soils have low permeability rates that prevent effective operation of septic tank systems. Areas where groundwater is high or the soils leach too quickly may also not support a septic system.

- Excessive slopes - In areas with a slope of 20 percent or more, improvements for accessibility, site preparation and sewage disposal are very difficult. As a result, these areas are generally avoided or more costly systems are required. Parcels with slopes in excess of 30 percent, are generally undevelopable for residential purposes (Current Environmental Health standards preclude development of septic systems on slopes greater than 30 percent). Good portions of these lands are within Resource designated lands that do not have significant residential development potential.

- Water quality - Some areas in the county lack sufficient water for development (either surface or groundwater). In addition, there are areas where there may appear to be sufficient water but the potability is affected by heavy metals or minerals such as arsenic, mercury, sodium, chloride and boron.

- Flood Hazard - Development in flood hazard areas can result in property damage and loss of life. Additionally, if the county allows development in these areas, it also runs the risk of losing its eligibility in the National Flood Insurance Program.

- Fire Hazard - Trinity County consists, primarily, of a mosaic of mixed conifer, hardwood and chaparral woodlands located on moderate to steep mountain slopes. With wet winters providing the moisture to stimulate vegetation growth, and hot, dry summers that bring the vegetation to tinder status, both natural and man-caused fires are common features in this landscape. The California Department of Forestry and Fire Protection indicates that all areas are at risk of wildland fires, with much of the county classified as high to extreme fire hazard severity. Consideration of fire safety and strict adherence to Trinity County's Fire Safe Ordinance standards should be required, especially when building outside the community centers.

2.2.1 Zoning Districts and Density

The County has a variety of zoning districts, including those generally reserved for more resource based land uses, e.g. Agriculture and Timber Production, which have low density development standards, some devoted to Commercial or to a more limited extent, Industrial, and Residential zones. The resource based and commercial/industrial districts either have that limited density development standard or are specifically regulated to limit residential occupancies to preserve the commercial tax base of the land.

The Zoning Districts and density standards are listed below in Table 2.1.

Table 2.1

Zoning District	Minimum Lot Size
Agriculture/A	10 acres
Agricultural Preserve/AP	40 acres*
Agricultural Forest/AF	10 acres
Timber Production/TP	160 acres*
Rural Residential/RR	1, 2.5, 5, 10 acres dependent on specifics
Single Family/R-1	6,000 square feet
Duplex/R-2	6,000 square feet
Multi-Family/R-3	16,000 square feet
Residential Office/R-O	7,000 square feet
Retail Commercial/C-1	10,000 square feet
General Commercial/C-2	10,000 square feet
Highway Commercial/HC	10,000 square feet
Heavy Commercial/C-3	0.5 acre
Industrial/I	0.5 acre

2.3 Population

Trinity County communities are small and rural. Weaverville, the county seat, has fewer than 4,000 residents. Hayfork is the second largest at 2,500 and Lewiston has 1,500. As a result of the extent of public landownership, relative inaccessibility, combined with a limited job market, Trinity County is only sparsely settled, with a population of less than 14,000 residents. The population density in Trinity County is only 4 people per square mile compared to 239 people per square mile for California.

The 2010 United States Census reported that Trinity County had a population of 13,786. The racial makeup of Trinity County is 88% White, 0.5% African American, 4.9% Native American, 0.8% Asian, 0.2% Pacific Islander, and 4.8% from two or more races. Hispanic or Latino of any race is 7.0%.

Based on projections from the California Department of Finance (DOF), Trinity County's population has declined from a growth rate of 5.6% in the 1980s, to 0% in 2000, to a -0.7% in 2013. The decline is likely linked to an overall economic decline in the resource-based economy of the region, as well as an overall reduction in outdoor tourism which have the two historic principle bases of the region. Based on perception, there has been some growth in a more transient and "underground" segment of the population linked to the marijuana industry, but that aspect of the population stays "under the radar" of traditional demographic analysis. This population appears to be more diverse in both culture and economic status. The overall impacts of this change in demographic is too early and would be too speculative to evaluate at this time.

2.4 Economy

The major industries of Trinity County are tourism, water-related recreation, local and federal government, timber and small private business. The main highways of Trinity County, Hwy 299, Hwy 3, and Hwy 36, are Scenic Byways. The county hosts many visitors, especially during summer months, for camping, backpacking, bicycle riding, boating, and world-class fishing.

The per capita income for the county is $16,868. About 14.1% of families and 18.7% of the population are below the poverty line, including 26.2% of those under age 18 and 7.2% of those are age 65 and over. Median household income for Trinity County is $36,569 compared to $61,400 for California.

The following table, (Table 2.2) based on California Department of Finance data, illustrates the changes in employment trends between 2000 and 2011.

Table 2.2

Industry Type	2000	2011
Agriculture, forestry, fishing and hunting, and mining	7.8%	5.6%
Construction	7.3%	8.6%
Manufacturing	7.1%	4.4%
Wholesale trade	2.3%	0.6%
Retail trade	11.4%	14.1%
Transportation and warehousing, and utilities	4.5%	3.7%
Information	1.9%	2.6%
Finance, insurance, real estate and rental and leasing	2.4%	1.7%
Professional, scientific, management, admin.	6.6%	6.6%
Educational, health and social services	26.3%	19.7%
Arts, entertainment, recreation, and food services	8.6%	17.4%
Other services	5.3%	6%
Public administration	8.6%	9.1%
TOTAL	100.0%	100.0%

2.5 History

The Wintu people lived in the Weaverville area for about 4,000 years. Closely related to the Nomlaki and Patwin to the south, the Chimariko to the west and the Hupa to the northwest, the Wintu people lived along the Trinity River, where they found everything they needed to thrive. The Wintu way of life was forever changed with the arrival of trappers and settlers ready to exploit this resource-rich area. By the early 1800s nearly three-quarters of the Wintu people had been decimated by disease.

It is believed that the first white man to travel through Trinity County was Jedediah Smith about 1828. The first known gold discovery was in 1848, by Major P.B. Reading just a few months after John Marshall made his famous discovery at Sutter's Mill. The discovery made the Trinity River area one of the main destinations of the California Gold Rush.

Trinity County was one of the original counties of California, created in 1850 at the time of statehood. Weaverville was selected as the county seat.

People of all nationalities came for the gold; among them were thousands of Chinese. They built their own Joss House (temple) in Weaverville, which is a State Park today. Large scale dredge gold mining was practiced in the Trinity River until the middle of the 20th century.

Driven by the post-World War II housing boom, timber harvesting became a main driver of the economy until the recession of the early 1980s. One lumber mill remains operational in the County today.

Chapter 3: Hazard Identification and Risk Assessment

ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT
Requirement
B1. §201.6(c)(2)(i) [The risk assessment shall include a] description of the type, location and extent of all natural hazards that can affect the jurisdiction.
B2. §201.6(c)(2)(ii) The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

This chapter examines hazards and vulnerability affecting Trinity County. The risk assessment process identifies and profiles relevant hazards and assesses the exposure of lives, property, and infrastructure to these hazards. The risk assessment process helps the County better understand their potential risk to natural hazards and provides a framework for developing and prioritizing mitigation actions to reduce risk from future hazard events. This process followed four steps:

1. Hazard Identification
2. Risk Assessment and Hazard Profiles
3. Vulnerability Assessment
4. Capability Assessment

3.1 Hazard Identification

Methodology
The Trinity County Hazard Mitigation Steering Committee (SC) reviewed data from several sources and discussed the impacts of each of the hazards required by FEMA for consideration, which are listed alphabetically below, to determine the natural hazards that threaten the planning area:

- Avalanche
- Coastal Erosion
- Coastal Storm
- Dam/Levee Failure
- Drought
- Earthquake
- Expansive Soils
- Extreme Heat
- Flood
- Hailstorm
- Hurricane
- Land Subsidence
- Landslide
- Severe Winter Storm
- Tornado
- Tsunami
- Volcano
- Widespread Infectious Disease
- Wildfire
- Windstorm

The SC immediately eliminated some FEMA listed hazards from further profiling because they do not occur in the planning area or their impacts were not considered significant in relation to other hazards. Trinity County is located in a mountainous, inland region, hence coastal erosion, coastal storm and

hurricanes are not threats to its residents. While the county is mountainous, areas where avalanches occur are, for the most part, uninhabited with a very low possibility of causing damage. Both tornados and hailstorms have an insignificant history of impacts and vulnerability in the county as well.

Data on past impacts and the probability of future occurrences of these hazards was collected from the following sources:

- Hazards & Vulnerability Research Institute (2013). The Spatial Hazard Events and Losses Database for the United States (SHELDUS™), Version 12.0 [Online Database]. Compilation of county-level hazard data for 18 different natural hazards (information on past hazard events). Columbia, SC: University of South Carolina. Available from http://www.sheldus.org
- Disaster declaration history from FEMA
- Disaster declaration history from Cal EMA
- State of California Multi-Hazard Mitigation Plan (2010)
- Trinity County Safety Element of the General Plan
- Trinity County Community Wildfire Protection Plan
- Trinity County Climate Adaptation Plan
- Volunteer Fire Chiefs Association
- Trinity County Planning Department
- Trinity County Office of Emergency Management
- Public survey
- Personal communications with local residents
- Trinity Journal newspaper

Past Hazard Events from SHELDUS™

This online database provides a different perspective than the declared disasters. Data for every county in the country is gathered from the National Climatic Data Center and analyzed by the Hazards and Vulnerability Research Institute using SHELDUS™. Between 1990 and 1995, SHELDUS™ contains only events that caused at least one fatality or more than $50,000 in property or crop damages. All other years do not have that threshold. If an event resulted in injuries and/or fatalities, the number of fatalities were divided by the number of counties affected, hence some events have less than a whole number listed under those columns. The website states that data is completed through 2012, however there are no listed events for Trinity County after 2006. Trinity County events are listed in Table 3.1 by season, which emphasizes that winter events account for double the amount of all the other three season events combined.

Past Hazards from Other Sources

Table 3.2 lists hazards from the California State Multi-Hazard Mitigation Plan, 2010.
Table 3.3 lists hazards from Federal Emergency Declarations.
Table 3.4 lists hazards from State Emergency Declarations.
Table 3.5 lists recent hazards from the local weekly newspaper, The Trinity Journal.

Table 3.1 Past Trinity County Hazard Events from 1961-2006 (SHELDUS™).
Event totals by season: Spring=1; Summer=11; Fall=10; and Winter=46.

Trinity County Disaster History
Source: SHELDUS™

Season	Begin Date	Hazard Type	County	Injuries	Fatalities	Property Damage $	Crop Damage (thousands)	Inflation Adjusted Property Damage (2012)	Inflation Adjusted Crop Damage (2012)
spring	3/16/1961	Wind	Trinity	0	0	862	-	6,620	-
summer	7/12/1961	Severe Storm/ Thunder Storm	Trinity	0.07	0	18	-	137	-
summer	8/11/1961	Severe Storm/ Thunder Storm	Trinity	0	0	86	862	662	6,620
summer	7/11/1962	Lightning	Trinity	0	0	104	-	792	-
summer	8/7/1962	Lightning - Severe Storm/ Thunder Storm	Trinity	0	0	179	179	1,358	1,358
summer	7/16/1965	Severe Storm/ Thunder Storm	Trinity	0	0	86	-	628	-
summer	7/24/1965	Lightning	Trinity	0	0	1,042	-	7,592	-
summer	8/10/1965	Severe Storm/ Thunder Storm	Trinity	0.03	0	862	8,621	6,283	62,834
summer	8/16/1965	Severe Storm/ Thunder Storm	Trinity	0	0	86	86	628	628
summer	6/23/1992	Severe Storm/ Thunder Storm	Trinity	1	0	16,667	-	27,274	-
summer	8/13/1992	Heat	Trinity	1.03	0	-	-	-	-
summer	8/28/2001	Wildfire	Trinity	0	0	3,500,000	-	4,537,431	-
fall	9/2/1960	Severe Storm/ Thunder Storm	Trinity	0.03	0	13,889	-	107,730	-
fall	10/9/1960	Wind	Trinity	0.02	0.03	86	-	669	-
fall	9/2/1961	Wind	Trinity	0	0	3,571	357	27,424	2,742
fall	10/7/1961	Wind	Trinity	0	0.03	862	-	6,620	-
fall	10/10/1962	Severe Storm/ Thunder Storm –Wind (flood)	Trinity	1.79	0.36	35,714	35,714	271,516	271,516
fall	9/21/1965	Wildfire	Trinity	0	0	214,286	-	1,561,864	-
fall	11/18/1967	Lightning	Trinity	0	0	104	-	716	-

Trinity County Disaster History
Source: SHELDUS™

Season	Begin Date	Hazard Type	County	Injuries	Fatalities	Property Damage $	Crop Damage (thousands)	Inflation Adjusted Property Damage (2012)	Inflation Adjusted Crop Damage (2012)
fall	11/27/1982	Landslide	Trinity	0	0	50,000	-	118,961	-
fall	9/1/1987	Lightning	Trinity	7.29	0.57	3,571,429	-	7,218,121	-
fall	10/1/1999	Wildfire	Trinity	0	0	1,300,000	-	1,791,550	-
winter	2/7/1960	Severe Storm/ Thunder Storm -Wind	Trinity	0.06	0.06	10,417	10	80,797	81
winter	1/20/1962	Winter Weather (flood)	Trinity	0.86	0.12	8,621	-	65,538	-
winter	2/7/1962	Severe Storm/ Thunder Storm -Wind	Trinity	0.26	0.35	86,207	-	655,384	-
winter	3/2/1962	Hail - Severe Storm/Thunder Storm - Wind - Winter Weather	Trinity	0.02	0.03	86	-	655	-
winter	1/30/1963	Severe Storm/ Thunder Storm –Wind (flood)	Trinity	0.57	0.14	35,714	-	267,967	-
winter	12/18/1964	Flooding	Trinity	1.96	0.64	1,785,714	179	13,225,461	1,323
winter	11/14/1965	Severe Storm/ Thunder Storm	Trinity	0	0.02	8,621	-	62,834	-
winter	12/28/1965	Severe Storm/ Thunder Storm -Wind	Trinity	0	0	862	-	6,283	-
winter	1/2/1966	Severe Storm/ Thunder Storm - Winter Weather	Trinity	0	0	3,571	-	25,308	-
winter	1/20/1967	Severe Storm/Thunder Storm - Wind	Trinity	0.07	0.02	8,621	86	59,259	593
winter	3/12/1967	Severe Storm/ Thunder Storm - Wind - Winter Weather	Trinity	0	0	862	-	5,926	-
winter	12/12/1967	Severe Storm/ Thunder Storm - Wind - Winter Weather	Trinity	0	0.03	8,621	8,621	59,259	59,259

Trinity County Disaster History
Source: SHELDUS™

Season	Begin Date	Hazard Type	County	Injuries	Fatalities	Property Damage $	Crop Damage (thousands)	Inflation Adjusted Property Damage (2012)	Inflation Adjusted Crop Damage (2012)
winter	1/11/1969	Severe Storm/ Thunder Storm - Winter Weather	Trinity	0	0	250	-	1,564	-
winter	1/18/1969	Severe Storm/ Thunder Storm	Trinity	0.17	0.78	862,069	8,621	5,393,075	53,931
winter	1/8/1970	Severe Storm/ Thunder Storm – Wind (flood)	Trinity	0	0	10,417	-	61,639	-
winter	1/16/1973	Flooding - Severe Storm/ Thunder Storm	Trinity	0	0	86,207	-	445,779	-
winter	1/8/1973	Flooding - Severe Storm/ Thunder Storm	Trinity	0	0	-	35,714	-	184,680
winter	12/23/1979	Severe Storm/ Thunder Storm - Wind - Winter Weather	Trinity	0	0	14,286	-	45,178	-
winter	1/9/1980	Severe Storm/ Thunder Storm - Wind	Trinity	0	0	1,042	1,042	2,902	2,902
winter	1/27/1981	Winter Weather	Trinity	0	0	1,042	-	2,631	-
winter	10/27/1981	Winter Weather	Trinity	0	0	3,571	-	9,021	-
winter	11/13/1981	Lightning - Wind - Winter Weather	Trinity	0.07	0	3,571	357	9,021	902
winter	12/22/1982	Wind/ Flood	Trinity	0.21	0.06	1,041,667	104	2,478,346	248
winter	2/26/1983	Severe Storm/Thunder Storm - Wind	Trinity	0.08	0	10,417	104	24,012	240
winter	2/17/1986	Flooding	Trinity	0	0	50,000	-	104,742	-
winter	3/4/1987	Wind	Trinity	0	0	4,545	4,545	9,187	9,187
winter	3/4/1987	Wind	Trinity	0	0	1,000	-	2,021	-
winter	12/5/1987	Wind	Trinity	0	0	3,571	36	7,218	72
winter	12/15/1987	Winter Weather	Trinity	0	0	2	2	4	4
winter	2/17/1988	Wind	Trinity	0	0.03	8,621	-	16,731	-

Trinity County Disaster History
Source: SHELDUS™

Season	Begin Date	Hazard Type	County	Injuries	Fatalities	Property Damage $	Crop Damage (thousands)	Inflation Adjusted Property Damage (2012)	Inflation Adjusted Crop Damage (2012)
winter	2/2/1989	Winter Weather	Trinity	0	0	179	-	331	-
winter	2/15/1990	Winter Weather	Trinity	0	0	3,125	-	5,490	-
winter	12/20/1990	Winter Weather	Trinity	0	0.09	147,059	147,058,824	258,331	258,330,708
winter	1/5/1992	Winter Weather	Trinity	0	0	104	-	170	-
winter	1/27/1992	Wind	Trinity	0	0	71	-	117	-
winter	2/9/1992	Winter Weather	Trinity	0	0	893	-	1,461	-
winter	2/14/1992	Flooding - Winter Weather	Trinity	0	0	8,929	-	14,611	-
winter	12/10/1992	Flooding - Wind - Winter Weather	Trinity	0	0	1,351	-	2,211	-
winter	12/28/1992	Landslide - Winter Weather	Trinity	0	0	2,778	-	4,546	-
winter	12/31/1992	Winter Weather (flood)	Trinity	0	0	27,778	-	45,457	-
winter	1/23/1996	Flooding	Trinity	0	0	200,000	-	292,663	-
winter	3/4/1996	Wind	Trinity	0	0	1,667	-	2,439	-
winter	1/1/1997	Flooding	Trinity	0	0	2,500,000	-	3,576,231	-
winter	12/28/2005	Landslide	Trinity	0	0	13,975,000	-	16,428,961	-
winter	12/31/2005	Wind	Trinity	0	0	800,000	-	940,477	-
winter	1/7/2005	Winter Weather	Trinity	0.25	0	-	-	-	-

Past Hazard Events from State of California Multi-Hazard Mitigation Plan

Table 3.2

Trinity County Disaster History
Source: State of California Multi-Hazard Mitigation Plan, October 2010

Disaster Name	Type	Cause	Disaster Number	Year	State Proclamation	Federal Declaration	Cost	Affected Counties
2008 Mid-Year Fires	Fire	Fire	EM-3287	2008		6/28/2008		12 counties
Junction Fire	Fire	Fire	FM-2662, DC 2006-07	2006		7/29/2006	142,373	Trinity
Major Levee Erosion	Flood	Levee Break	DC 2006-06	2006	9/19/2006		210,411	Trinity
2005/06 Winter Storms	Flood	Storms	DR-1628	2005-06		2/3/2006	128,964,501	30 counties
Hurricane Katrina Evacuations	Economic	Hurricane	EM-3248	2005		9/13/2005	-- (sites for evacuees)	all 58
Snowstorm (Trinity)	Snow	storms	DC 2004-1	2004	1/1/2004		1,122,549	Trinity
State Road Damage	Road damage	Flood	GP 2003	2003		1/1/2003		15 counties
Late Storm '02	Flood	Storms	DC 2003-01	2003	1/1/2003		5,875,940	3 counties
Trinity Wildfire	Fire	Fire	DC 2001-05	2001	9/1/2001		242,935	Trinity
Energy Emergency	Economic	Greed	GP 2001	2001	1/1/2001			all 58
1999 August Fires	Fire	Fire	EM-3140	1999	8/26/1999	9/1/1999	1,154,573	10 counties
1998 El Nino Floods	Flood	Storms	DR-1203	1998		2/9/1998	385,141,192	43 counties
1997 January Floods	Flood	Storms	DR-1155	1997	1/2/1997	1/4/1997	194,352,509	48 counties
1995 Late Winter Storms	Flood	Storms	DR-1044	1995		1/10/1995	132,040,111	57 counties
1995 Severe Winter Storms	Flood	Storms	DR-1044	1995	1/6/1995	1/31/1995	221,948,347	45 counties
1992 Late Winter Storms	Flood	Storms	DR-979	1992	1/7/1993	1/15/1993	226,018,111	24 counties
1987 Wildland Fires	Fire	Fire	GP	1987	9/10/1987		18,000,000	24 counties
1986 Storms	Flood	Storms	DR-758	1986	2/18/1986	2/18/1986	407,538,904	39 counties
Winter Storms	Flood	Flood	DR-677	1982	12/8/1982	2/9/1983	523,617,032	45 counties
1974 Storms	Flood	Storms	DR-412	1974	1/17/1974	1/25/1974	35,192,500	7 counties
1970 N. California Flooding	Flood	Flood	DR-283	1970	1/27/1970	2/16/1970	27,657,478	18 counties

Trinity County Disaster History *Source: State of California Multi-Hazard Mitigation Plan, October 2010*								
Disaster Name	**Type**	**Cause**	**Disaster Number**	**Year**	**State Proclamation**	**Federal Declaration**	**Cost**	**Affected Counties**
1964 Late Winter Storms	Flood	Storms	DR-183	1964	12/22/1964	12/29/1964	213,149,000	26 counties
1963 Floods and Rains	Flood	Storms		1963	2/7/1963	2/25/1963	Not available	20 counties
1962 Floods and Rains	Flood	Storms		1962	10/17/1962	10/24/1962	4,000,000	12 counties
1955 Floods	Flood	Flood	DR-47	1955	12/22/1955	12/23/1955	200,000,000	all 58
1950 Floods	Flood	Flood	OCD 50-01	1950	11/21/1950		32,183,000	all 58

Past Hazards from Federal Declarations of Emergencies

Table 3.3

Trinity County Disaster History *Source: www.fema.gov/disaster*								
Disaster Name	**Type**	**Cause**	**Disaster Number**	**Year**	**State Proclamation**	**Federal Declaration**	**Cost**	**Affected Counties**
California Drought	Drought	Drought	EM-3023	1977		1/20/1977	Not available	47 counties
California Severe Freeze	Freeze	Freeze	DR-1689	2007		3/13/2007	23,000,000	all 58

Past Hazards from State Declaration of Emergencies

Table 3.4

Trinity County Disaster History *Source: www.caloes.ca.gov/HazardMitigationSite*								
Disaster Name	**Type**	**Cause**	**Disaster Number**	**Year**	**State Proclamation**	**Federal Declaration**	**Cost**	**Affected Counties**
Storms 1996	Storms	Storms		1996-97	1/2/1997		1.94 Bil	25 counties
Winter storms & flooding	Flooding	Winter storms			2/9/1998		3.85 Bil	46 counties
Trinity fires	Fires	Lightning strikes			9/21/1999		1.15 Mil	Multiple
Widespread fires	Fires	Fires			10/19/1999		1.15 Bil	7 counties
Energy Shortage	Energy shortage	Supply/ demand	D-44-01	2001	1/17/2001		Not available	State
Storms 2002-03	Storms	Rainfall		2002-03	2/21/2003		5.8 Mil	3 counties
Roadway Damages	Road Damage	Rainfall		2005-06	5/10/2006		Not available	40 counties
Extreme Low Temperatures	Freezing temps	Weather		2007	1/12/2007		Not available	State

Trinity County Disaster History *Source: www.caloes.ca.gov/HazardMitigationSite*								
Disaster Name	**Type**	**Cause**	**Disaster Number**	**Year**	**State Proclamation**	**Federal Declaration**	**Cost**	**Affected Counties**
Wildfires 2008	Wildfire	Lightning		2008	6/23/2008		Not available	Trinity & Monterey
Water Shortage	Drought	Lack of water		2009	2/27/2009		Not available	State
Chinook Salmon	Fishery	Ocean conditions +		2009	4/21/2009		Not available	State
Storms 2011	Storms	Storms		2011	4/15/2011		Not available	19 counties

Recent Hazards Reported in Trinity Journal

Table 3.5

Trinity County Disaster History *Source: Trinity Journal Newspaper*				
Disaster Name	**Type**	**Cause**	**Date**	**Affected Counties**
Hwy 299 Road Damage	Landslide	Rain	12/22/2010	Trinity
Winter Storm	Tanker overturn/ rockslide/ lost power	Snow	1/18/2012 (Issue 1/25/2012)	Trinity

Hazards listed in the Trinity County Safety Element of the General Plan

California State Law requires each city and county to adopt a General Plan for the physical development of the county or city, and any land outside its boundaries, which bears relation to its planning (§ 65300).

The Safety Element, one of the seven required elements of a General Plan set forth in California Government (§ 65302 (g)) is required to identify "any reasonable risk associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiches, and dam failure; slope instability leading to mudslides and landslides, subsidence and other geologic hazards known to the legislative body; flooding; and wildland and urban fires."

The Trinity County Safety Element provides guidelines to promote safety by setting goals, objectives, and policies for:

- Airport Safety
- Flood Risks or Dam Failure
- Hazardous Materials
- Seismic or Geological Hazards
- Wildfire and Structures
- Air Quality
- Climate Change
- Military Operation Area

"Airport safety" and "Military Operation Area" are not hazards, per se. Safety issues concerning these two areas are covered completely in the Safety Element and will not be addressed in this document. As described in the Safety Element, air quality in Trinity County is good except during wildfire events. Mitigation policies for air quality are completed within the Safety Element and will be referenced within the Wildfire section of this plan. Climate Change will be addressed in each of the hazard categories of this plan as it pertains to future probability of hazards.

The Safety Element of the general plan (officially adopted in November 2014 by the Trinity County Board of Supervisors) will help guide mitigation strategy in this document for the following identified hazards:

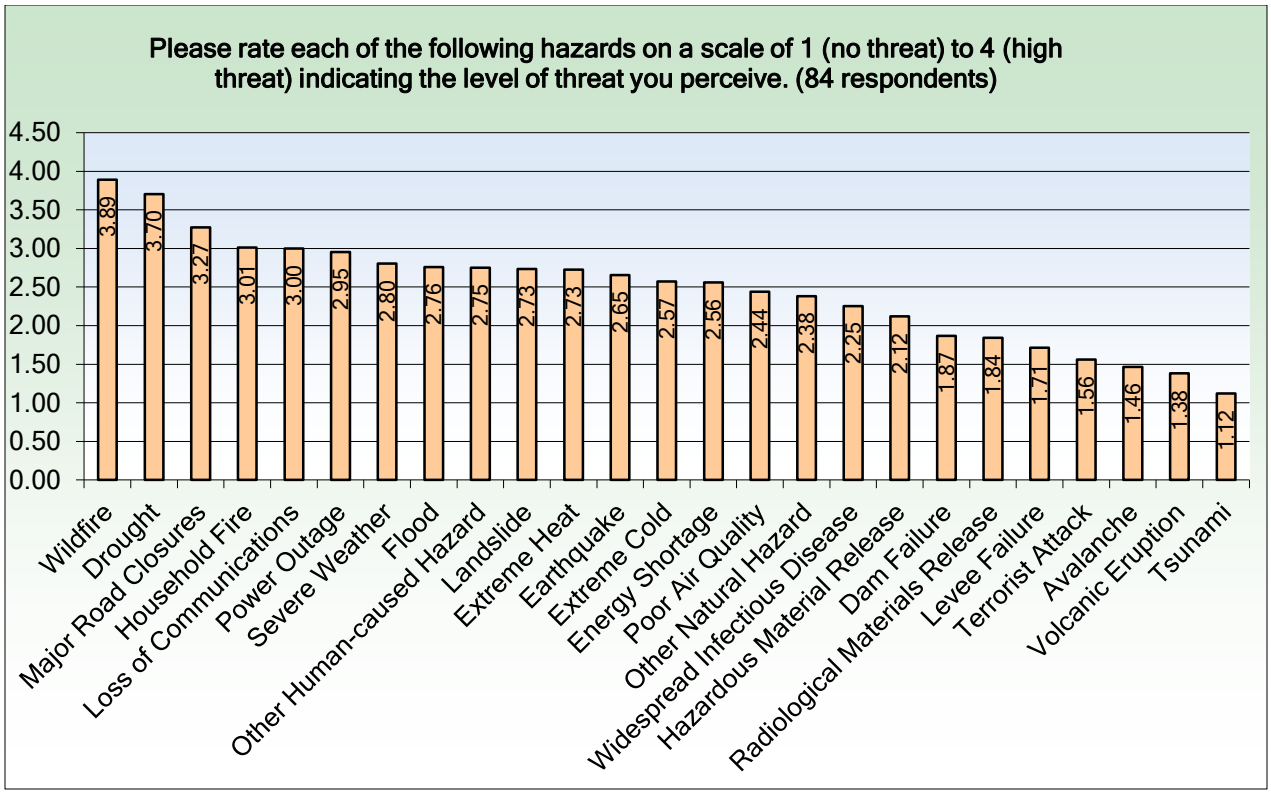
Dam Failure
Flood
Hazardous Materials
Seismic or Geological Hazards (earthquakes and landslides)
Wildfire (including Structures and Air Quality)

Perceived Hazards Identified in Public Survey

A copy of the public survey and all responses can be found in Appendix B. It was available online through a link on the County website from January – March 2014. It was also distributed at public meetings in Mad River, Hyampom and at the Fire Chief's meeting in February 2014. An email announcement was also sent to all people who had previously requested information on the planning process.

In the survey residents were asked to rate hazards in the survey on a scale of 1 (no threat,) 2 (low threat), 3 (moderate threat), and 4 (high threat). The graph below (Graph 3.1) is displayed as a weighted average in response to this question. *Wildfire*, with a weighted average of 3.89, is the highest perceived threat among the 84 respondents who answered the question. This score indicates that nearly all respondents rated wildfire as a high threat.

Graph 3.1



An open-ended survey question of "What is the worst hazard that you have experienced in Trinity County?" was answered by 79 people. Because it was open-ended, people answered with more than one hazard. By far, the worst hazard residents have experienced is wildfire, with 53 mentioning it in their narrative. Severe weather and its effects ranked number two, with 15 mentions of severe weather including power outages, 9 mentions of landslides and 5 mentions of flooding.

While drought came in as the number two threat in the previous question, it came in last (with only 2 mentions) as the worst hazard residents had actually experienced. This discrepancy could be due to the drought Trinity County is currently experiencing. Extreme Heat was not even mentioned by residents as a 'worst hazard experienced', although residents ranked it between a low and moderate threat in the first question. It is the view of the SC that residents of Trinity County are accustomed to hot weather and prepared for it. Based on the above history of disasters, this plan will not include mitigation for extreme heat.

In discussions with first responders (fire chiefs, sheriff's department, health care workers and ambulance service) it became clear that *Loss of Communications*, *Widespread Infectious Disease* and *Hazardous Materials Release* should be included in this plan.

Based on all of the previous information, the SC identified the following hazards as top priority for this mitigation plan (listed alphabetically):

Dam Failure
Drought
Earthquake
Flood
Hazardous Materials

Landslides
Loss of Communications
Severe Weather
Widespread Infectious Disease
Wildfire

3.2 Risk Assessment and Hazard Profiles

Risk assessment was based on the sources listed above as well as Geographic Information System (GIS) databases available for Trinity County.

Detailed profiles for each of the identified hazards include information on the following characteristics of the hazard:

Hazard Description
This section consists of a general description of the hazard and the types of impacts it may have on a community.

Geographic Location
This section describes the geographic extent or location of the hazard in the planning area and assesses the affected areas as isolated, small, medium, or large.

Large—More than 50 percent of the planning area affected
Medium—25-50 percent of the planning area affected
Small—10-25 percent of the planning area affected
Isolated—Less than 10 percent of the planning area affected

Previous Occurrences
This section includes information on historical incidents, including impacts, if known. Information from previously mentioned data sources was included.

Probability of Future Occurrence
The frequency of past events is used to gage the likelihood of future occurrences. Based on historical data and considering available climate change analysis, the probability of future occurrences is categorized as follows:

Highly Likely—Near 100 percent chance of occurrence next year or happens every year
Likely—10-100 percent chance of occurrence in next year or has a recurrence interval of 10 years or less
Occasional—1-10 percent chance of occurrence in the next year or has a recurrence interval of 11 to 100 years
Unlikely—Less than 1 percent chance of occurrence in next 100 years or has a recurrence interval of greater than every 100 years

The probability, or chance of occurrence, was calculated where possible based on existing data. Probability was determined by dividing the number of events observed by the number of years and multiplying by 100. This gives the percent chance of the event happening in any given year. An example would be three droughts occurring over a 30-year period, which suggests a 10 percent chance of a drought occurring in any given year.

Magnitude/Severity
This section summarizes the potential magnitude and severity of a hazard event in terms of deaths, injuries, property damage, and interruption of essential facilities and services. Magnitude and severity is classified in the following manner:

Catastrophic—Multiple deaths; property destroyed and severely damaged; and/or interruption of essential facilities and service for more than 72 hours
Critical—Isolated deaths and/or multiple injuries and illnesses; major or long-term property damage that threatens structural stability; and/or interruption of essential facilities and services for 24-72 hours
Limited—Minor injuries and illnesses; minimal property damage that does not threaten structural stability; and/or interruption of essential facilities and services for less than 24 hours
Negligible—No or few injuries or illnesses; minor quality of life loss; little or no property damage; and/or brief interruption of essential facilities and services

3.2.1 Dam Failure Hazard Profile

Description
Dam failure can be caused by flood conditions leading to overtopping, mechanical failure, earthquake, or any combination of these factors. Other causes of dam failure include internal erosion, improper design and maintenance, negligent operation and failure of upstream dams. Two factors that influence the potential severity of a full or partial dam failure are the amount of water stored and the density, type, and value of development and infrastructure located below the dam.

The speed of flooding from dam failure depends on the causal factors. Dam failure can occur in as little as a few minutes or more slowly over the course of many months. Thus, warning time can vary accordingly, but in the event of a catastrophic failure of a large dam, evacuation time for locations directly downstream would be extremely brief. Floodplain characteristics largely determine the available warning time for locations further downstream. With regard to duration of high water conditions that result from dam failure, this depends on the capacity and stage of the reservoir at time of breach as well as the severity of the breach.

There are five managed dams located in Trinity County: Trinity, Lewiston, Buckhorn, Ewing, and Matthews Dam, located within Trinity County. Jones Ranch Dam, the sixth dam in the county, is a private dam for recreation and water storage (Figure 3.1). There also are two managed dams located to the south of Trinity County on the Eel River, which flows through Trinity County: Scott Dam and Cape Horn Dam. The Trinity County Safety Element provides a significant narrative regarding each of the dams. Table 3.6 is a synopsis of that narrative.

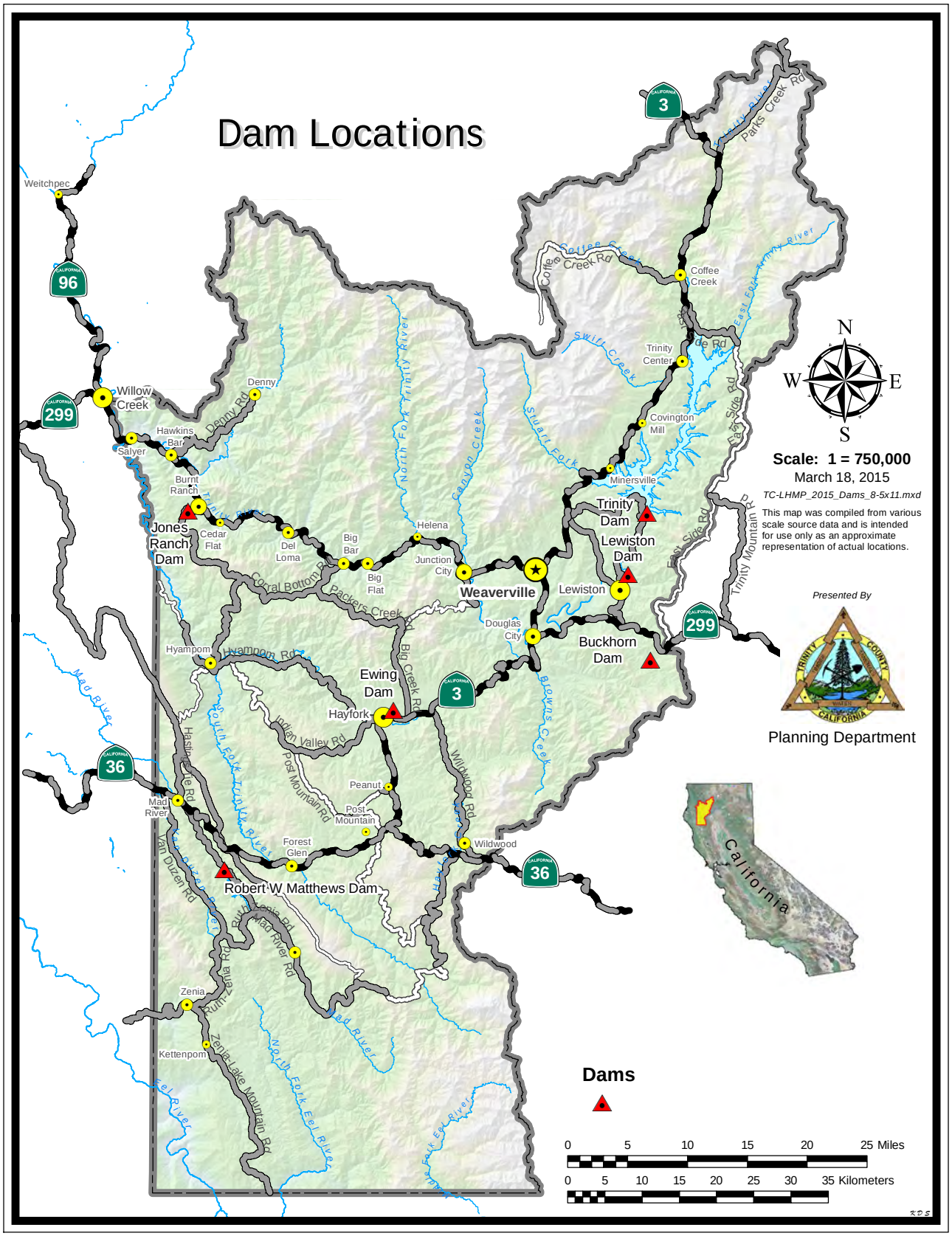
Table 3.6

Trinity Dam: Located 9 miles upstream of Lewiston on the Trinity River				
Type	**Height**	**Max Capacity**	**Owner**	**Year Completed**
Earth-filled embankment	538 ft.	2,447,650 acre-feet (currently at 52% of historical average*)	Bureau of Reclamation	1962
Lewiston Dam: Located 1 mile upstream of Lewiston on the Trinity River				
Type	**Height**	**Max Capacity**	**Owner**	**Year Completed**
Earth-filled embankment	91 ft.	14,660 acre-feet	Bureau of Reclamation	1961
Buckhorn Dam: Located 20 miles east of Weaverville on Grass Valley Creek				
Type	**Height**	**Max Capacity**	**Owner**	**Year Completed**
Concrete	(unavailable)	Designed for sediment trapping	Bureau of Reclamation	1991
Ewing Dam: Located in Hayfork, receives diverted water from Big Creek				
Type	**Height**	**Max Capacity**	**Owner**	**Year Completed**
Earth/Rock**	63 ft.**	887 acre-feet**	Trinity County Water District #1	1972**
R.W. Matthews Dam: Located in SW Trinity County on the Mad River, 80 miles from Eureka				
Type	**Height**	**Max Capacity**	**Owner**	**Year Completed**
Earth-Filled	150 ft.	48,030 acre-feet	Humboldt Bay Municipal Water District	1962
Jones Ranch Dam: Located 1.2 miles from Burnt Ranch on unidentified tributary to Trinity River				
Type	**Height**	**Max Capacity**	**Owner**	**Year Completed**
Earth-filled	36 ft.	94 acre-feet	Simmons	1980**
Scott Dam: Located in Lake County on the Eel River, 30 miles NE of Ukiah				
Type	**Height**	**Max Capacity**	**Owner**	**Year Completed**
Concrete- gravity	122 ft.	73,000 acre-feet	Pacific Gas & Electric Co.	1921
Cape Horn: Located in Mendocino County on the Eel River, 23 miles NE of Ukiah				
Type	**Height**	**Max Capacity**	**Owner**	**Year Completed**
Composite	63 ft.	390 acre-feet	Pacific Gas & Electric Co.	1907

***** http://cdec.water.ca.gov/cdecapp/resapp/resDetailOrig.action?resid=CLE. Accessed June 27, 2014
**http://www.water.ca.gov/damsafety/docs/Jurisdictional1.pdf. Accessed June 27, 2014

The two dams located outside of the County on the Eel River, which flows through the SW corner of the County, will not be reviewed further in the mitigation plan. Any damage that may be caused from a dam failure on either dam would have low impact within Trinity County. That portion of the County is sparsely populated and the flood impact would be minimal once it reached inside the County borders. According to the Mendocino County Hazard Mitigation Plan (January 2008), failure of Scott Dam would stay within the 100 year flood plain and inundate the northeastern portion of Willits and the unincorporated land surrounding it. Failure of Cape Horn dam is not considered a threat within Mendocino County.

Figure 3.1


Dam Locations
Weitchpec
Willow Creek
Hawkins Bar
Salyer
Burnt Ranch
Jones Ranch Dam
Cedar Flat
Del Loma
Big Bar
Big Flat
Helena
Junction City
Weaverville
Coral Bottom Rd
Packers Creek Rd
Hyampom
Hyampom Rd
Ewing Dam
Hayfork
Big Creek Rd
Indian Valley Rd
Post Mountain Rd
Peanut
Post Mountain
Forest Glen
Mad River
Robert W Matthews Dam
Wildwood
Wildwood Rd
Blowns Creek
Douglas City
Lewiston
Trinity Dam
Lewiston Dam
Buckhorn Dam
Minersville
Covington Mill
Trinity Center
Coffee Creek
Coffee Creek Rd
Parks Creek Rd
East Side Rd
Trinity Mountain Rd
Swift Creek
Canyon Creek
Stuart Fork
North Fork Trinity River
East Fork Trinity River
Denny
Denny Rd
Zenia
Kettenpom
Zenia-Lake Mountain Rd
North Fork Eel River
Eel River
Van Duzen Rd
Ruth-Zenia Rd
Ruth Lake Rd
Mad River Rd
Hayfork Creek
South Fork Trinity River
Mad River
Hasting Ridge Rd
96
299
3
36
N
W
E
S
Scale: 1 = 750,000
March 18, 2015
TC-LHMP_2015_Dams_8-5x11.mxd
This map was compiled from various scale source data and is intended for use only as an approximate representation of actual locations.
Presented By
Planning Department
California
Dams
0 5 10 15 20 25 Miles
0 5 10 15 20 25 30 35 Kilometers

Geographic Location
Small – 10-25 percent of the planning area affected.
The areas that would be inundated are less than 25% of the land area of the county, however major population centers and state highways would be affected, especially in the case of Trinity, Lewiston and Buckhorn Dam failures.

Previous Occurrences
No major dam failures have happened in recorded history in Trinity County.

One major levee failure happened in 2006 as listed in the California Multi-Hazard Mitigation Plan with a cost of over $210,000. Research using past issues of the local paper could find no reference to this levee failure. Long-time residents of Trinity County did not recall the incident either.

The US Army Corps of Engineers (USACE) provided a list of five levee repairs in Trinity County *(personal communication with Ryan J. McClymont, Public Affairs Specialist, San Francisco District (SPN), U.S. Army Corps of Engineers; 7/14/2014)*, but it did not include the one referenced in the state plan. The five are:

1. December 1964 flooding caused erosion of riprap and slopes on the levees of the USACE-constructed East Weaver Creek (Weaverville) Federal Flood Control Project. The local sponsor, Trinity County, applied for Public Law (PL) 84-99 rehabilitation assistance, and USACE repaired the levees in October 1965.
2. January and March 1995 storms caused dislodging of riprap along the toe of one of the levees along the East Weaver Creek Federal Flood Control Project. Trinity County applied for PL 84-99 rehab assistance and USACE repaired the levee by September 1996.
3. December 1996 and January 1997 storms caused scouring on the left bank levees of the East Weaver Creek Federal Flood Control Project. Trinity County applied for PL 84-99 rehab assistance and USACE repaired the levees by September 1997.
4. December 1996 and January 1997 storms also caused damages to the left bank levee of the Trinity County-constructed Coffee Creek levee project. Trinity County applied for PL 84-99 rehab assistance and USACE repaired the levees by the end of 1997.
5. Winter 2008/2009 storms caused erosion of one of the levees along the East Weaver Creek Federal Flood Control Project. Trinity County performed a repair on their own with no USACE assistance.

Probability of Future Occurrence
Occasional—1-10 percent chance of occurrence in the next year or has a recurrence interval of 11 to 100 years

While there have been no recorded dam failures in Trinity County and only minor levee damage from storms, that does not mean it cannot happen. Because dam failure is a manmade hazard, the methodology for calculating probability based on past occurrences does not truly reflect the actual risk of future occurrence. The three largest dams in the County -Trinity, Lewiston, and Matthews – were all completed a little over 50 years ago. Regular maintenance is performed on all three dams, but there is no known data on how long they will last as the majority of dams in the entire country were all built about the same time, according to the US Army Corps of Engineers National Inventory of Dams.

Another way to estimate future occurrence is to consider the probability of other hazards that could contribute to dam failure. In the case of Trinity County those hazards would include earthquake and

flooding. The County has only experienced eight earthquakes over 4.0 magnitude, with largest one registering 5.4. The Jones Ranch Dam was near the epicenter of the 5.4 earthquake and the Matthews Dam was within 5 miles of a 4.0 earthquake. The other dams are not near any seismic activity. The probability of another earthquake over 4.0 in the County is **likely**. The probability of a destructive earthquake near Matthews dam is discussed in the HBMWD Annex, Chapter 6. Probability of future flooding in the County is also **likely.**

Magnitude
Catastrophic—Multiple deaths; property destroyed and severely damaged; and/or interruption of essential facilities and service for more than 72 hours.

The US Army Corps of Engineers (USACE) maintains a national inventory of dams (NID) database. The NID consists of dams meeting at least one of the following criteria:

1) High hazard classification - loss of one human life is likely if the dam fails,
2) Significant hazard classification - possible loss of human life and likely significant property or environmental destruction,
3) Equal or exceed 25 feet in height and exceed 15 acre-feet in storage,
4) Equal or exceed 50 acre-feet storage and exceed 6 feet in height.

All six of the Trinity County dams are listed in this database.

The NID Hazard Potential classification (High, Significant or Low) for Trinity and Lewiston Dams is not listed on this website, as they restrict that information to federal employees only. While the USACE does not offer an official classification, we can assume, based on the density of population and structures below these dams, that loss of life and property damage would be inevitable in the case of a major failure. Jones Ranch and Ewing Dams are listed as Significant hazard potential classification and Matthews Dam is listed as a High hazard potential classification.

A catastrophic dam failure in Trinity County could easily overwhelm local response capabilities and require mass evacuations to save lives.

3.2.2 Drought Hazard Profile

Description
Drought is a condition of climatic dryness severe enough to reduce soil moisture and water needed to support life. Lack of precipitation over extended periods is the primary cause of drought, making drought an atypical emergency as it develops over months and years, rather than rapidly.

Drought is a complex issue involving many factors. It occurs when a normal amount of moisture is not available to satisfy an area‘s usual water-consuming activities. Drought can be defined in four different categories:

Meteorological drought is usually defined by a period of below average precipitation.
Agricultural drought occurs when there is not enough water supply for crops and livestock. This can occur even with average precipitation due to soil conditions and water conservation practices.
Hydrological drought is defined as deficiencies in surface and subsurface supplies such as streamflow, snowpack, lake and groundwater. This also can occur when precipitation is normal, but increase in human use lowers availability.

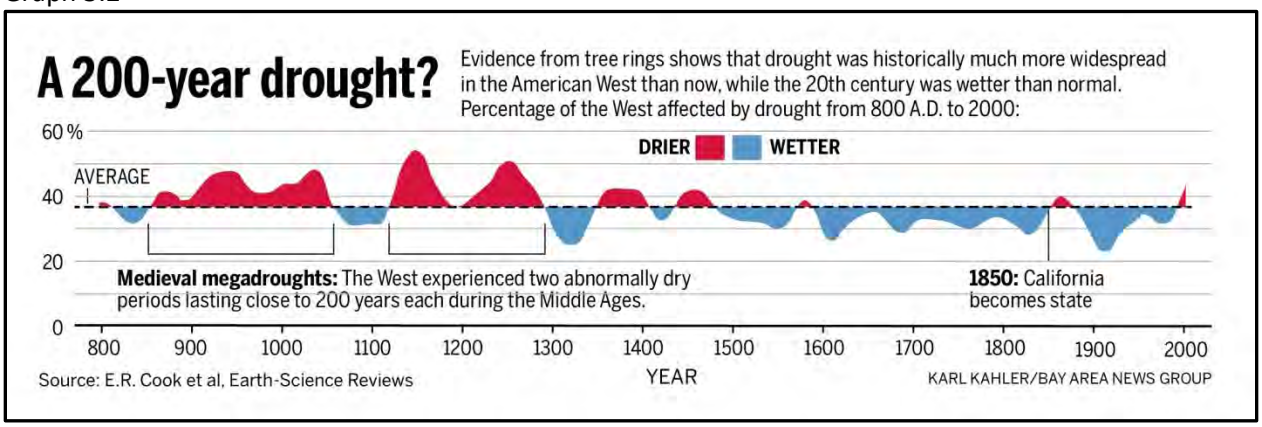
Socioeconomic drought associates the supply and demand of water services with elements of meteorological, hydrologic, and agricultural drought. Socioeconomic drought occurs when the demand for water exceeds the supply as a result of weather-related supply shortfall.

Geographic Location
Large - The geographic extent of this hazard in Trinity County.

Drought can and does affect all areas of Trinity County. Socioeconomic drought has hit the Hayfork Creek and South Fork Trinity River watersheds especially hard due to the lack of rainfall and snowpack, combined with an unsustainable increase in water usage by marijuana farmers.

Previous Occurrences
Drought in California is part of the regular weather cycle. The following graph (3.2) from the San Jose Mercury News article " California drought: Past dry periods have lasted more than 200 years, scientists say" posted 1/25/2014, summarizes tree ring data from 800 A.D. to 2000. According to the article, *"California in 2013 received less rain than in any year since it became a state in 1850. And at least one Bay Area scientist says that based on tree ring data, the current rainfall season is on pace to be the driest since 1580 -- more than 150 years before George Washington was born."*

Graph 3.2



The only Federally recognized emergency for drought in Trinity County was in 1977, when the entire state was suffering from water shortages. A state emergency was declared in 2009 and again in 2014.

The Southwestern States Flood and Drought Summaries from the U.S. Geological Survey summarize California's drought history and report that the drought of 1976-77 was most severe in the northern three-quarters of California, but the impact was experienced statewide because of the dependence of southern California on water transfers from the north. The water year 1977 was the driest year of record at almost all gauging stations in the affected area of California. However, 2013/14 has now topped that record.

The Trinity County Board of Supervisors declared a drought emergency for the County as of October 2014 and has continued the declaration as of March 2015.

Probability of Future Occurrence
Likely—10-100 percent chance of occurrence in next year or has a recurrence interval of 10 years or less

In Trinity County, three multi-year droughts are on record for the last 50 years. This pattern of previous occurrence equals a 6 percent chance of occurring in any given year. Available data for determining hydrologic risks is limited. However, drought frequency estimates based on tree ring studies (shown in Graph 3.2) have shown extensive dry periods. Projections of the potential effects of climate change indicate a long-term trend toward warmer average temperatures, reduced annual snowpack, and a drier overall climate.

Magnitude/Severity
Critical—Isolated deaths and/or multiple injuries and illnesses; major or long-term property damage that threatens structural stability; and/or interruption of essential facilities and services for 24-72 hours. While buildings would not be affected directly, social and economic impacts would be severe.

Due to the dispersed nature of the population, many Trinity County residents rely on ground and surface water for domestic use. Without access to municipal water supplies, these residents must find other sources for their daily survival needs. Lack of safe drinking water can lead to illness, but likely not injury. Drought conditions can also lead to agricultural, environmental and economic losses throughout the County. Drought can intensify the effects of wildfire due to both drier fuel loads and lower availability of water for suppression. Wildfire, aggravated by extreme drought, can cause property damage that threatens structural stability and interruption of essential facilities and services.

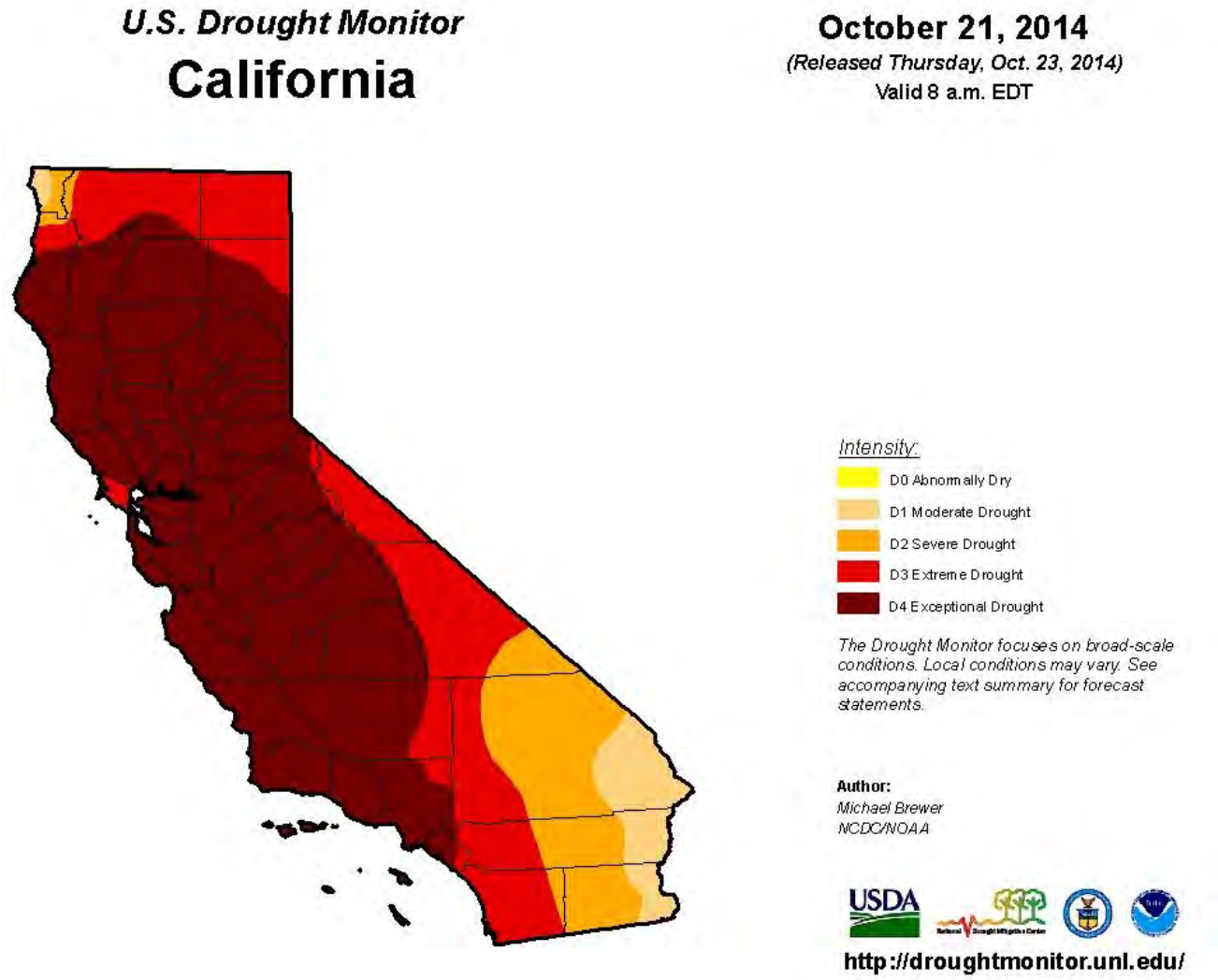
Drought severity ratings by the U.S. Drought Monitor (http://droughtmonitor.unl.edu/Home.aspx) indicate that Trinity County has experienced some form of drought in all but two of the last eight years. They track drought on a weekly basis, using the following ranking system:

D0 – Abnormally Dry
D1 – Drought Moderate
D2 – Drought Severe
D3 – Drought Extreme
D4 – Drought Exceptional

The 2008-2009 drought went into the D3, Extreme Drought ranking for a few weeks, but remained consistently in the D0-D2 rankings. From 2010 through 2011 the County was relatively free of drought, with a few seasonal weeks showing up as Abnormally Dry. In 2013 the rankings again moved into drought territory, covering the first three categories from Abnormally Dry to Severe Drought. The County has experienced Extreme Drought (D3) throughout 2014. As of June 15, 2014, the majority of Trinity County has moved into the D4, Exceptional Drought ranking.

Figure 3.2 shows drought conditions present across the planning area as of October 21, 2014.

Figure 3.2



3.2.3 Earthquake Hazard Profile

Description

Earthquake is defined as the potentially violent motion or shaking of the earth's surface resulting from shifts on plates and faults. Earthquakes can cause structural and infrastructure damage, injury, and loss of life. Secondary impacts can includes landslides, seiches, liquefaction, dam failure, flooding and fires and explosions from burst gas and utility lines. Duration can range from a few seconds to several minutes, with aftershocks occurring for hours, days or weeks after the initial quake.

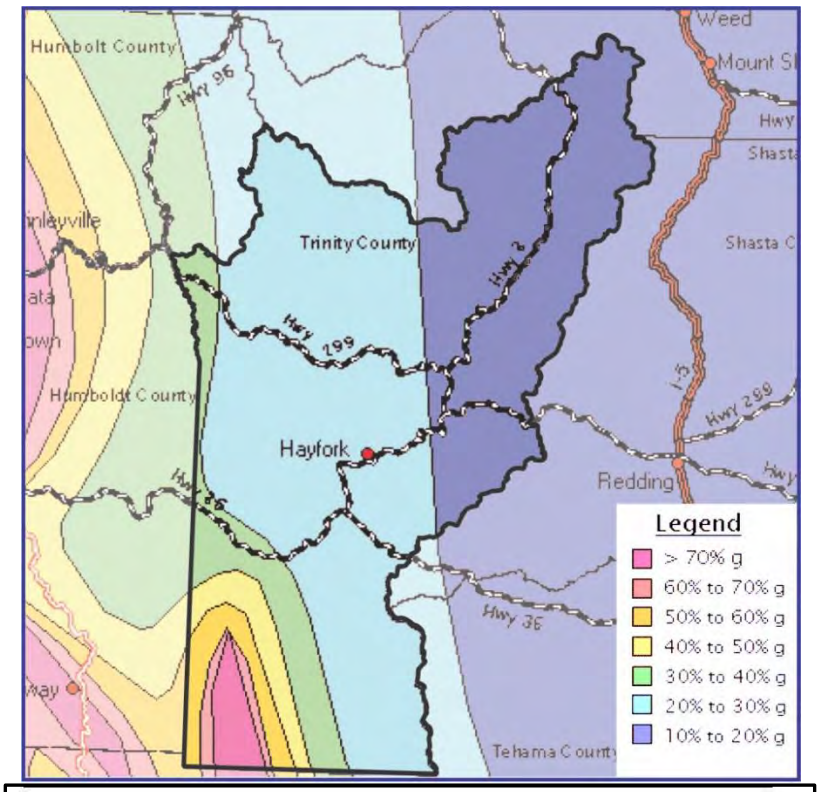
Geographic Location

Isolated - The geographic extent of earthquakes in Trinity County**.**

With a unique geologic structure, faults in Trinity County are not well understood. Appendix A of the Safety Element provides a description of the general geological makeup of the county.

The CGS probabilistic seismic hazard shaking index for the County (Figure 3.3)reveals that the majority of the County is at low risk, however Matthews Dam is located in the 30-50% g area.

Figure 3.3



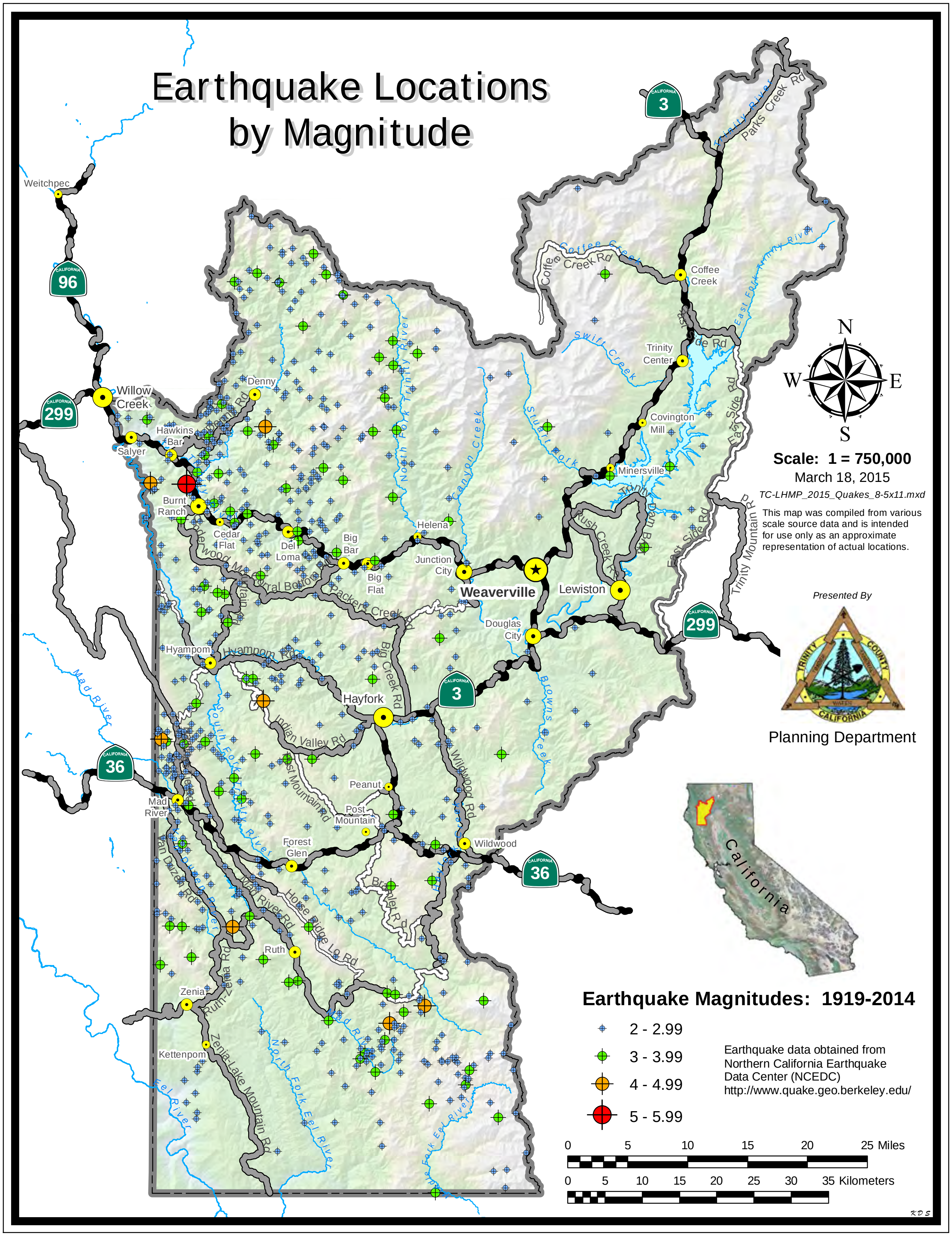
http://www.consrv.ca.gov/cgs/rghm/loss/Pages/2010_analysis.aspx
3/31/2014
The majority of Trinity County lies within the 20%-30% g area and at least one third is in the 10%-20% g area. A small portion in the south west corner of the county is at higher risk for shaking. The south western area of the county is sparsely populated with few structures.

The earthquake fault map from the Safety Element reveals that the known active faults in Trinity County are located in the corresponding regions with the highest percent of ground movement.

Previous Occurrences

The following map, Figure 3.4, from the Trinity County Safety Element, demonstrates the number, location and severity of Trinity County earthquakes between 1953 and 2012.

Figure 3.4


Earthquake Locations
by Magnitude
Scale: 1 = 750,000
March 18, 2015
TC-LHMP_2015_Quakes_8-5x11.mxd
This map was compiled from various scale source data and is intended for use only as an approximate representation of actual locations.
Presented By
Planning Department
Earthquake Magnitudes: 1919-2014
2 - 2.99
3 - 3.99
4 - 4.99
5 - 5.99
Earthquake data obtained from Northern California Earthquake Data Center (NCEDC) http://www.quake.geo.berkeley.edu/
0 5 10 15 20 25 Miles
0 5 10 15 20 25 30 35 Kilometers
Weaverville
Hayfork
Lewiston
Willow Creek
California

The following tables summarize the magnitude and number of quakes in Trinity County since 1953.

Table 3.7
Summary of number and magnitude of earthquakes from 1953-2012

Quantity	Magnitude
1	5.4
7	4.0-4.43
93	3.0-3.91
620	2.0-2.99
721	Total

Table 3.8
Earthquakes over 4.0 magnitude on the Richter Scale

Date	Magnitude
7/9/1961	4
4/29/1980	4
7/23/1997	4
12/4/1994	4.02
5/2/1995	4.1
10/15/1998	4.2
3/9/1992	4.43
4/30/2008	5.4

Probability of Future Occurrence

Earthquakes are unpredictable. Based on the number that have occurred in the county, the probability of having another earthquake in the next year is **Highly Likely** (721 occurrences over 61 years). However, as noted on the above scale, the intensity of past quakes tends to be low, with only 14% of ground movement in the County exceeding 3.0 and only 1% exceeding 4.0 on the Richter scale over the last 61 years. This puts the probability of a 4.0+ quake at the low end of **Likely** (13%) to happen in the next year, or has an recurrence interval of 7.6 years for a quake over 4.0 on the Richter scale (8 occurrences over the last 61 years).

The area in the county with the highest percent probability of shaking has not had a measurable quake since records began in 1953. That does not preclude the possibility of one occurring in that area with devastating effects on the Matthews Dam, which is discussed in the HBMWD Annex, Chapter 6.

According to the 2013 California Multi-Hazard Mitigation Plan, Trinity County has never had a state or federal declared earthquake disaster (Figure 3.5) between 1950 and 2012.

While Trinity County may not be at risk for a catastrophic earthquake, our neighboring counties to the west could suffer from one due to the Cascadia subduction zone along the Pacific Ocean shoreline. Both the Trinity County Safety Element and the Emergency Operation Plan mention the likelihood of evacuees coming to the County. However, it should be noted that in the case of a major subduction earthquake, the only two east/west highways in the area (Hwys 299 and 36) would likely suffer major damage as well.

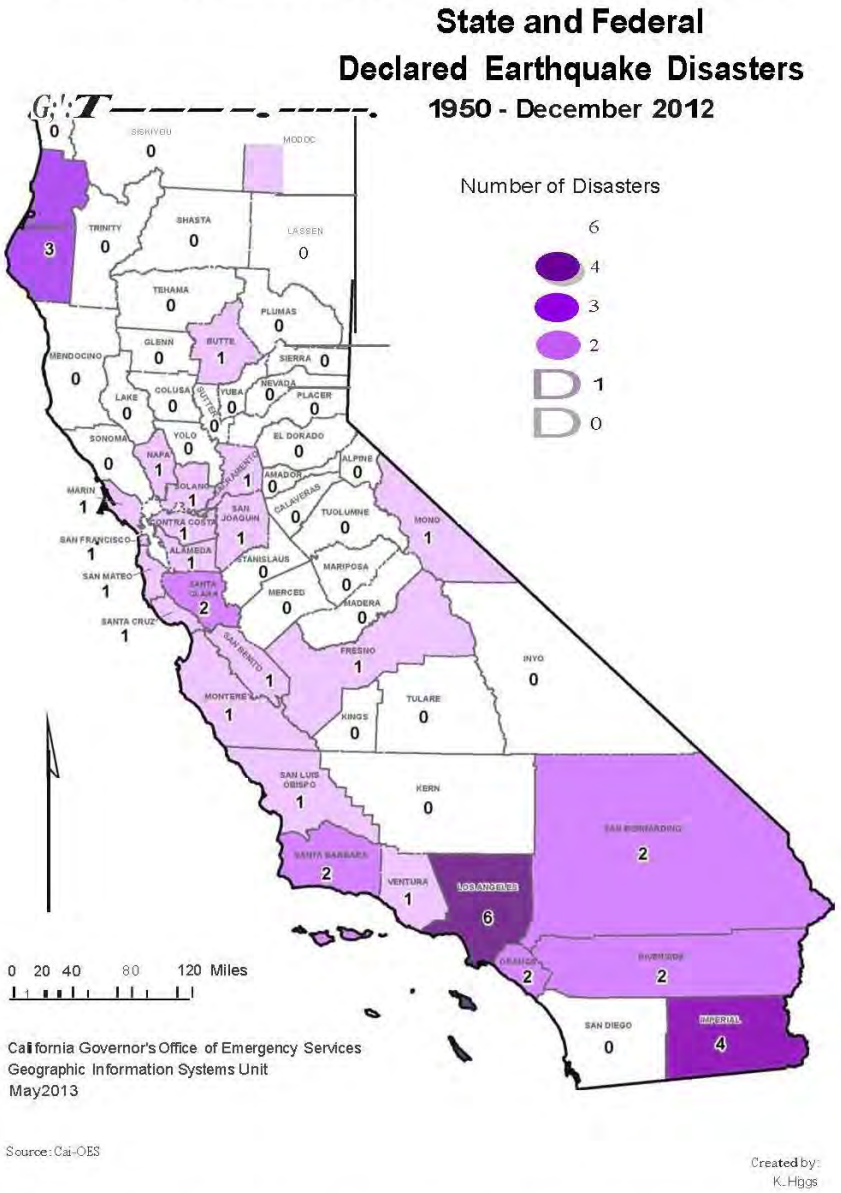
Magnitude/Severity

Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability.

The amount of energy released during an earthquake is most commonly expressed on a moment magnitude scale and is measured directly from the earthquake as recorded on seismographs, using the Richter scale. As shown in the NCEDC data, the largest earthquake recorded in the County was a 5.4 on the Richter scale on April 30, 2008 near Burnt Ranch.

Figure 3.5

MAP S.H: State and Federal Declared Earthquake Disasters, 1950-December 2012



Map 5.H shows the distribution within California of state-proclaimed and federally declared earthquake disasters from 1950 to 2012. The distribution of disasters can be generally related to potential future earthquake shaking hazards levels in California.

The Richter scale is logarithmic, meaning a recording of 6 indicates a disturbance with ground motion 10 times as large as a recording of 5. A quake magnitude 2 is the smallest quake normally felt by people. Earthquakes with a Richter value of 6 or more are commonly considered major; great earthquakes have magnitude of 8 or more on the Richter scale.

The majority of seismic activity in the County has occurred in the least populated areas, as shown in Figure 3.4. However, the area prone to the most shaking - the southwestern portion of the County - also is the location of the Matthews Dam. While a major earth quake has not been recorded there, the possibility of a large quake remains and would cause severe damage downstream if the dam were to fail. This issue is addressed in the Matthews Dam Annex , chapter 6.

Critical facilities which could be damaged in the event of a 6+ earthquake in the highest probability shaking zone near Burnt Ranch or in the southwestern portion of the County include the Burnt Ranch School, Southern Trinity High School, Van Duzen Elementary School and Hoaglin-Zenia Elementary School, and the volunteer fire department. These areas of the County do not have hospitals or police stations.

3.2.4 Flood Hazard Profile

Description

Riverine flooding is defined as watercourses exceeding —bank-full capacity and is the most common type of flood event. Riverine flooding generally occurs as a result of prolonged rainfall, or rainfall that is combined with soils already saturated from previous rain events. The area adjacent to a river channel is its floodplain. In its common usage, —floodplain refers to that area that is inundated by the 100-year flood, the flood that has a 1 percent chance in any given year of being equaled or exceeded. Other types of floods include thunderstorm generated flash floods, alluvial fan floods, snowmelt and rain on snow floods, dam failure floods (see Section 3.2.1), and urban or local drainage floods. The following is a description of the primary types of flooding that can occur in Trinity County.

Flash flood—A flood that rises very quickly, occurring suddenly, within a short time (from minutes to less than six hours), and usually is characterized by high flow velocities. Flash floods often result from intense rainfall over a small area, usually in areas of steep terrain.

Riverine flooding—Occurs when a river or stream flows over its banks and causes considerable inundation of nearby land and roads. Riverine flooding is a longer-term event that may last several days to a week or more. Overbank flows along the Trinity River system usually result from heavy snow melt combined with heavy rainfall.

The one percent annual flood, or base flood, is the national standard to which communities regulate their floodplains through the National Flood Insurance Program. The potential for flooding can change and increase through various land use changes and changes to land surface permeability relating to urbanization, however Trinity County is currently a rural county. A change in environment can create localized flooding problems inside and outside of natural floodplains by altering or confining watersheds or natural drainage channels.

Volume, onset, and duration characteristics for different types of floods are described below:

Snowmelt—Flooding is characterized by moderate peak flows, large volume of runoff, moderate speed of onset, long duration, and marked daily fluctuation of flow.
Rain in a general storm system—Flooding is characterized by high peak flows and moderate speed of onset and duration of flood flows.
Rain on snow event – Combines snowmelt from past snow storms with a large, warm rain event off the Pacific known as the "Pineapple Express." Flooding is characterized by high peak flows and moderate speed of onset and long duration of flood flows. This type of flood event has been the most catastrophic in the County.
Rain in a localized intense thunderstorm—Flooding is characterized by high peak flows, relatively sudden onset, short duration of flow, and smaller volumes of runoff.

Geographic Location
Medium - The geographic extent of the risk of future flooding in the planning area (25-50%).

Based on FEMA DFIRM maps, flooding is possible in parts of Weaverville, Lewiston, Hayfork, Douglas City Junction City, and smaller river-side communities. While Hyampom is too remote to be included in the FEMA data, there is a history of flooding along the South Fork Trinity River.

Previous Occurrences
Prior to the construction and completion of the Trinity and Lewiston Dams, flooding occurred more often and on a grander scale.

The late winter floods of 1964 that ravaged northern California, caused an estimated $5 million dollars' worth of damage in Trinity County alone. Adjusted for inflation, that number would be approximately $38 million dollars today. This rain on snow event was considered a 1,000 year flood.

While the Trinity Dam prevented some flooding along the Trinity River, undammed tributaries turned from pleasant creeks to roaring rivers. According to the Trinity County Historical Society, damage described in the late December 1964 through early February 1965 issues of the Trinity Journal included nine highway bridges including Junction City and Carrville; phone lines down throughout the County; 350 miles of roads needing repair, with 50 miles needing rebuilding; complete destruction of the Hyampom airport and partial damage to the Kettenpom and Ruth airports; severe damage from Coffee Creek including resorts, the school, homes, US Forest Service guard station being washed away, and bridges over Coffee Creek; $500,000 estimated damage to government roads, trails and campgrounds in the Hayfork Ranger District; and damage to Pacific Gas and Electric property along Canyon Creek.

Additional information from the Historical Society cites residents of Denny being stranded for 20 days, with a USGS estimate of 60,000 cubic feet per second flow on the New River; every culvert between Ruth and Hwy 36, about 18 miles, washed out; several feet of water over-topped Matthews Dam and residents below the dam were evacuated; Southern Trinity County was without electricity for 6-7 weeks; and several buildings lost in Junction City.

By combining the data listed in section 3.1 from SHELDUS™, California Multi-Hazard Mitigation Plan, State and Federal Emergency proclamations and local news media, the County has experienced the flood events listed in Table 3.9.

Table 3.9

Date	Major Flooding Event
10/10/1962	Severe Storm/ Thunder Storm –Wind (flood)
1/20/1962	Winter Weather (flood)
1/30/1963	Severe Storm/ Thunder Storm –Wind (flood)
12/18/1964	Flooding
1/8/1970	Severe Storm/ Thunder Storm – Wind (flood)
1/16/1973	Flooding - Severe Storm/ Thunder Storm
1/8/1973	Flooding - Severe Storm/ Thunder Storm
1/17/1974	Storms / Flooding
12/22/1982	Wind/ Flood
2/17/1986	Flooding
2/14/1992	Flooding - Winter Weather
12/10/1992	Flooding - Wind - Winter Weather
12/31/1992	Winter Weather (flood)
1/10/1995	Late Winter Storm - Flooding
1/31/1995	Severe Winter Storm - Flooding
1/23/1996	Flooding
1/1/1997	Flooding
2/9/1998	El Nino Flooding
1/1/2003	Late 2002 Storm Flooding
2/3/2006	05/06 Winter Storm Flooding

Probability of Future Occurrence
Likely - According to the historical data there have been at least 20 damaging floods in the last 52 years, indicating a 38 percent chance of flood in any given year, or an average 2.6 year recurrence level.

Magnitude/Severity
Critical—Isolated deaths and/or multiple injuries and illnesses; major or long-term property damage that threatens structural stability; and/or interruption of essential facilities and services for 24-72 hours

Past flood events in Trinity County have damaged roads and bridges, public facilities, private property, and businesses and have caused evacuations. These events are likely to continue in the future and may be exacerbated by climate change.

3.2.5 Hazardous Materials Hazard Profile

Description

Hazardous materials hazards are fully identified and analyzed in the Trinity County Hazardous Materials Area Plan (TCHMAP) and reviewed in the Trinity County Safety Element of the General Plan. Based on information in these plans, the County is meeting all of the current requirements set forth by local, state and federal governments.

Hazardous materials include hundreds of substances that can potentially pose a significant risk to the general population if released. These substances may be highly toxic, reactive, corrosive, flammable, radioactive or infectious. They are present in nearly every community in the U.S., where they may be manufactured, used, stored, transported, or disposed. Because of their nearly ubiquitous presence, there are hundreds of hazardous material release events annually in the U.S. that contaminate air, soil, and groundwater resources, potentially triggering millions of dollars in clean-up costs, human and wildlife injuries, and occasionally cause human deaths.

Accidents, which result in chemical clouds or release of hazardous materials into public water or sewer systems, may affect outlying neighborhoods or the community at large. Depending upon the scale of the release, large segments of the residential and the business populations may need to be evacuated quickly for extended periods of time. Effective emergency planning with regard to hazardous materials, therefore, requires the concentrated efforts of the Fire and Police Departments as well as other public safety officials and private organizations, such as the Red Cross. These plans are captured in the Trinity County Emergency Operations Plan. Hazardous material releases may occur from any of the following:
Fixed-Site: Includes all releases involving the production and manufacturing, handling, and storage of a hazardous product at a single facility as well as any releases that may occur at a designated hazardous waste disposal site.
Transportation: Includes all releases that occur while the product is in transit from one facility to another or en-route to be disposed of at a designated hazardous waste disposal site.
Intentional Spills and Releases: Includes all criminal acts and acts of terrorism in which a hazardous material is used to intentionally cause injuries and/or fatalities, damage the environment and/or property, or advance a political or social agenda.

Geographic Location

Small - The geographic extent of the risk of hazardous materials leaking or spilling in the planning area (10-25%).

The County maintains a list of all hazardous materials at fixed-sites within its boundaries. A total of 146 fixed sites are listed in the TCHMAP, with over 90% of them listing gasoline and petroleum by-products as the hazardous material stored.

Two transportation routes cross the County, with SR Hwy 299 being the only east-west transportation corridor between the central valley and the coast for several hundred miles in either direction. Due to the mountainous nature of the County, truck sizes are limited due to the winding nature of the highway. However, highway 299 does follow the Trinity River in several locations. If a transportation spill were to take place on the highway and reach the river, consequences for wildlife and safe drinking water could be dire. Highway 3 is the other main transportation route across the County. It runs north from

Weaverville to the Siskyou County line, and south and west to Hayfork and eventually to the coast via Hwy 36. It also parallels some waterways. All major transportation corridors and most communities are congregated along waterways within the County.

Intentional spills and releases should be considered as a possibility, as no area is immune from criminal acts.

Previous Occurrences
Over the last 10 years (between 2004 and 2013), 66 hazmat spills were reported to the California Office of Emergency Services from Trinity County. Data is not yet available for 2014. Of those 66 spills, 31 involved diesel, gasoline or a petroleum product chiefly as a the result of a vehicular accident.
A complete list of the incidents can be found in Appendix C.

Probability of Future Occurrence
Highly Likely – There is a near 100% chance of occurrence next year, as there has been some type of spill every year for the last 10 years.

Magnitude/Severity
Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability.

The possibility of a critical spill exists if a truck were to carry highly toxic chemicals which then became air or water borne near a population center. With the population spread out over a vast area and since the County has no railroad lines, the volume of a hazmat release is limited by the size of a tanker truck.

3.2.6 Landslides Hazard Profile

Description
A landslide is a general term for a variety of mass-movement processes that generate a down-slope movement of mud, soil, rock, and/or vegetation. For the purposes of this plan, the term landslide includes mudslides, debris flows, and rock falls that tend to occur suddenly, whereas erosion is a similar process that tends to occur on smaller scales and more gradually.
Natural conditions that contribute to landslide and erosion are the following:

- Degree of slope
- Water (heavy rain, river flows, or wave action)
- Unconsolidated soil or soft rock and sediments
- Lack of vegetation (no stabilizing root structure)
- Previous wildfires and other forest disturbances
- Road building, excavation and grading
- Earthquake

In addition, many human activities tend to make the earth materials less stable and, thus, increase the chance of ground movement. Human activities contribute to soil instability through grading of steep slopes or overloading them with artificial fill, by extensive irrigation, construction of impermeable surfaces, excessive groundwater withdrawal, and removal of stabilizing vegetation.

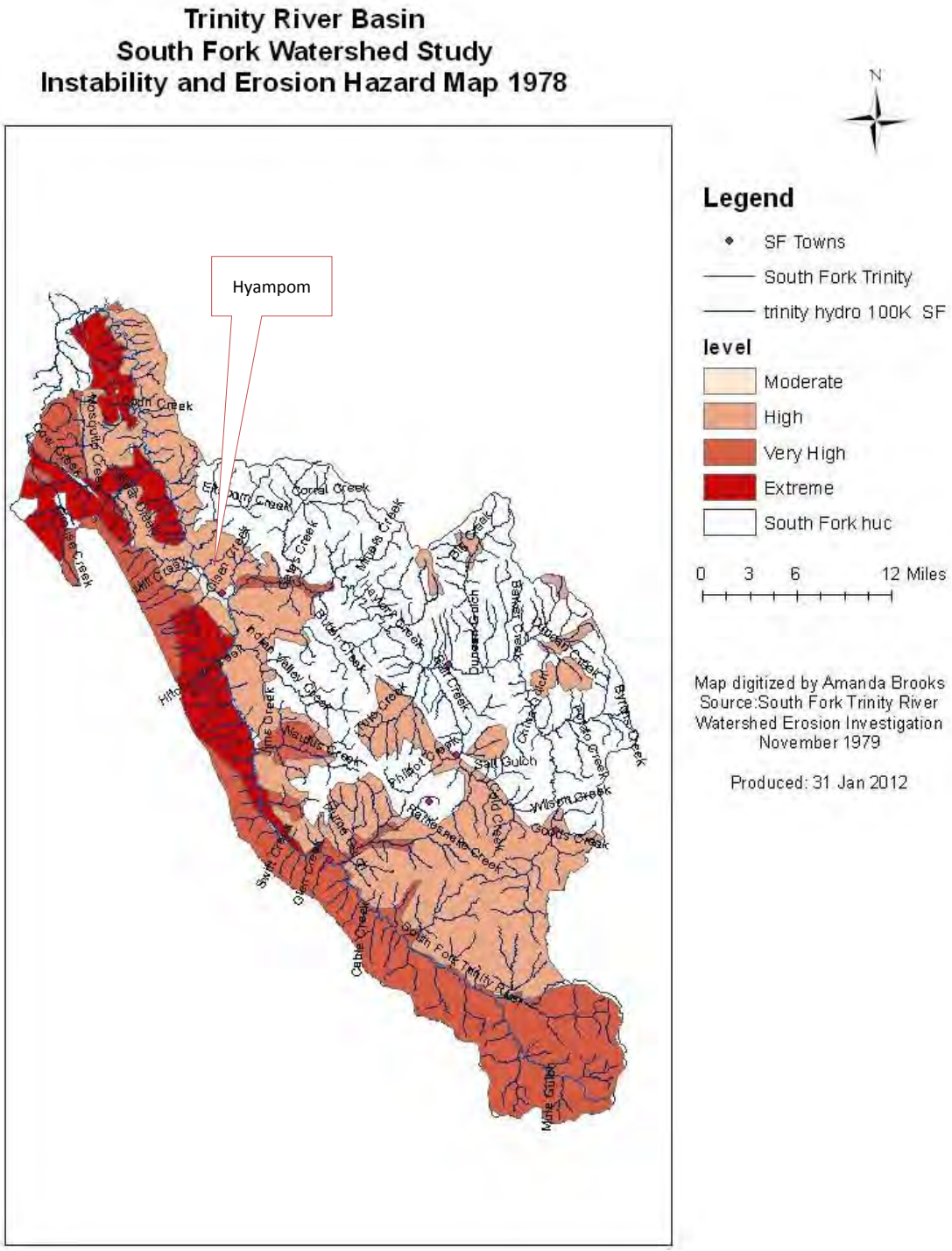
Another hazard related to landslide and erosion is the fall of a detached mass of rock from a cliff or down a very steep slope (rockfall). Weathering and decomposition of geological materials produce conditions favorable to rockfalls. Other causes include ice wedging, root growth, or ground shaking

(earthquake). Destructive landslides and rockfalls usually occur very suddenly with little or no warning time and are short in duration. A more gradual phenomenon is erosion, which can occur over periods of years and is generally viewed as a long-term problem.

Trinity County has varied geology, some of it highly prone to sliding. Appendix A of the Safety Element reviews the geology of the County in depth.

The California Department of Water Resources conducted a watershed erosion study in the South Fork Trinity Watershed in 1978. The resulting data was used to construct the map shown in Figure 3.6. This map clearly illustrates that the town of Hyampom is surrounded by instable and erosion-prone geology.

Figure 3.6

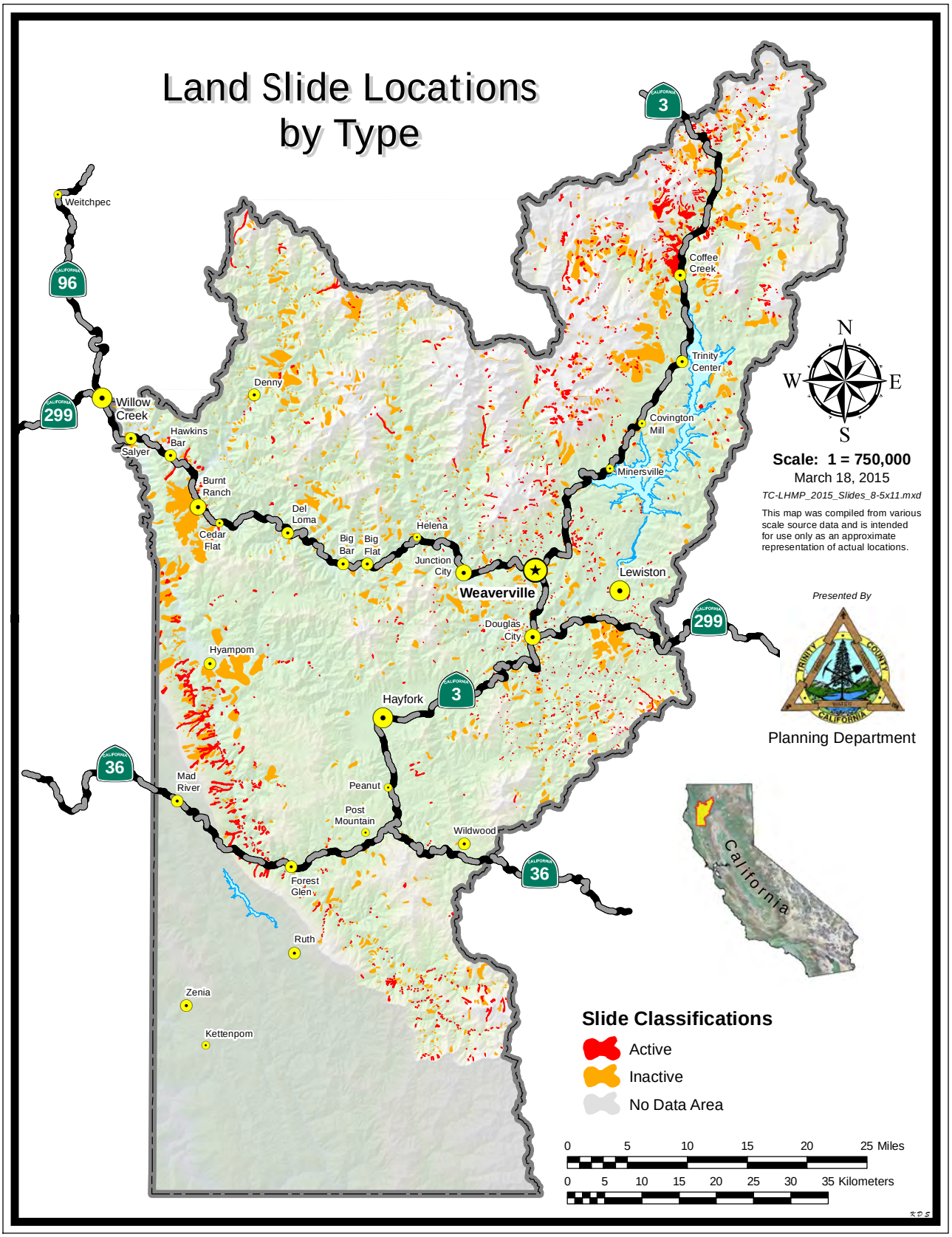


Geographic Location

The geographic extent of this hazard in Trinity County is **isolated,** with less than 10% of the planning area affected.

A mass wasting event occurred on the South Fork Trinity River in 1964 which took out a bridge, destroyed a house and isolated residents in the Hyampom area. The slide was caused by road building practices that are no longer used. The possibility of a future slide on the same scale has been greatly

Figure 3.7


Land Slide Locations by Type
Weitchpec
96
299
Willow Creek
Hawkins Bar
Salyer
Denny
Burnt Ranch
Cedar Flat
Del Loma
Big Bar
Big Flat
Helena
Junction City
Weaverville
Lewiston
Trinity Center
Coffee Creek
Covington Mill
Minersville
3
Douglas City
Hyampom
Hayfork
36
Mad River
Peanut
Post Mountain
Wildwood
Forest Glen
Ruth
Zenia
Kettenpom
N
W
E
S
Scale: 1 = 750,000
March 18, 2015
TC-LHMP_2015_Slides_8-5x11.mxd
This map was compiled from various scale source data and is intended for use only as an approximate representation of actual locations.
Presented By
Planning Department
California
Slide Classifications
Active
Inactive
No Data Area
0 5 10 15 20 25 Miles
0 5 10 15 20 25 30 35 Kilometers

reduced due to best management practices for road building and nearly twenty years of road decommissioning and upgrades in the South Fork watershed. Slides, slumps and rockfalls also affect Hyampom Road and portions of highways 299, 3, and 36.

Previous Occurrences
A map of previous occurrences from the Safety Element (Figure 3.7) illustrates the locations of known active and inactive landslides. The majority of landslides occur in sparsely populated areas of the County and do not result in insurance claims.

By combining the data listed in section 3.1 from SHELDUS™, California Multi-Hazard Mitigation Plan, State and Federal Emergency proclamations, community meetings and local news media, the County has experienced the landslide events listed in Table 3.10.

Table 3.10

Date	Major Landslide Event
11/27/1982	Landslide
1984	Landslide closed part of St. John Road for 2 weeks (Hyampom Community Meeting)
12/28/1992	Landslide – winter weather
12/28/2005	Landslide
2009	Earthquake caused slide, closing Hyampom Rd. for 3 weeks (Hyampom Community Meeting)
12/22/2010	Landslide – Hwy 299 road damage
1/18/2012	Rockslide – winter storm

Probability of Future Occurrence
In 30 years of data, a landslide large enough to affect the planning area has occurred 7 times. This makes it **Likely** that a landslide of reportable size will occur in the next year, with a 23% chance and a recurrence interval of 10 years or less.

Magnitude/Severity
Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability.

Impacts from landslides and erosion can range from mere inconvenience to high maintenance costs in cases where erosion or small-scale slides are involved. Rapidly moving large slides have the capacity to completely destroy buildings, roads, bridges, and other costly manmade structures. Such slides also have the potential for inflicting loss of life when they occur in developed areas. Excessive sediment loads in rivers caused by erosion and landslides are known water quality issues that stress water treatment facilities and wildlife habitat.

According to the *Trinity County Climate Adaptation Plan*, landslides could become more frequent:

> *"Storms are projected to become more intense, with more precipitation falling as rain and an increase of rain-on-snow events which will speed snow melt and lead to increased sediment delivery in watersheds.*
> *Often, local road systems are blocked due to slides after strong storms; this trend will continue and given projections of stronger storms we expect further impacts to local and regional travel."*

3.2.7 Loss of Communications Hazard Profile

Description

Loss of communications is a man-made hazard which could cripple the County in the face of a major disaster.

Due to the rugged terrain composed of steep mountains and deep river gorges, radio and other wireless communications in Trinity County is not always reliable due to line-of-sight issues, outdated equipment, and repeaters that do not send a strong enough signal. Suitable sites for repeaters have more than one repeater located on them already. One critical repeater Down River is solar powered with old batteries, hence it has no power at night. Additional sites would be welcomed, but issues regarding access to public and private lands and environmental compliance rules make it difficult to locate new sites. Fire, sheriff, first responders and public works use different repeaters with varying degrees of success. Work-arounds have been devised, but a more permanent solution needs to be created.

Satellite communications are available through CalTrans and the County Sheriff's office, but they offer communications from county to county and county to state, but not intra-county.

Amateur "ham" radios are not currently installed in County vehicles and current staff are not trained or registered to use it.

However, the Trinity County Amateur Radio Club (TCARC), a 501(C)(3) organization whose members are also Amateur Radio Emergency Service (ARES) members do operate in the most populated areas of the County. TCARC has been able to replace (2014-15) all its repeater radio equipment, including antennas, solar panels, batteries and support equipment, with new and up to date technology, on both Hayfork Bally and Bully Choop Mountain. This was accomplished with a grant from the Rotary Club of Hayfork. TCARC is in the process of installing and maintaining emergency radio stations at a number of emergency and public facilities, including the Hayfork Public Safety Building, and the following locations in Weaverville: Trinity Life Support, Trinity County Health and Human Services complex, the hospital and Trinity County Office of Emergency Services center.

TCARC/ARES members participate in TC and State agency emergency exercises, providing auxiliary and back up communications for first responders. TCARC also has a tactical repeater and an equipment trailer, both of which can be moved to almost any area of the county to provide emergency communications. If TCARC could find funding, it would be able to extend its area of influence to the downriver and south county areas. TCARC repeaters are totally off grid systems that can be counted on when all other power and communications are down. TCARC members practice weekly and by providing communications service for numerous events in the County that take place in remote areas. It is extremely important the this service becomes integrated into the county wide emergency response model so that first responders can access these assets when needed.

All Amateur Radio operators (this does not include citizens band radio) are licensed by the FCC, however the number of operators in the County is insufficient to cover all areas quickly due to the geographic distances between communities.

Geographic Location

The geographic extent of this hazard is **Large**, covering more than 50% of the planning area.

Previous Occurrences
Volunteer fire departments Down River and in Southern Trinity County report incidences of not receiving pages and/or calls during emergencies. Weaverville and Down River first responders have to "trick" the current system into working. The Kettenpom VFD added a booster on Pickett Peak and saw an increase in coverage from 10% to 60%.

In the 1964 "Christmas Week" storm that caused an estimated $38 million (adjusted for inflation) in damage, communication with southern Trinity County was challenging as all of the phone lines were down. According to the Trinity County Historical Society,

> *"There were a number of amateur radio "Ham" operators who assisted with the relaying of information, and there was some use of the county radio system, but the latter was minimal. Earlier in the year Road Commissioner Mel Dale had requested the Trinity County Board of Supervisors to approve a replacement radio system for the one they had, but a new system was not approved."*

Probability of Future Occurrence
The probability of future occurrences is **Highly Likely.** This is an on-going hazard.

Magnitude/Severity
The magnitude and severity of this hazard is **Critical.** If communications were to fail during a disaster lives could be lost and additional properties destroyed.

3.2.8 Severe Weather Hazard Profile

Description
Wind, lightning, snow, extreme cold and heavy rain all contribute to severe weather in Trinity County. The Steering Committee agreed that the severe weather profile should include all types of storms, not just winter storms. Severe weather in Trinity County happens nearly every year. Overland flooding is often caused by heavy rain storms. Wild fire is commonly started by lightning storms. In 2012 the town of Hyampom was isolated for three weeks due to snowfall blocking all roads in and out of town.

Geographic Location
The geographic extent of this hazard is **Large**, covering more than 50% of the planning area.

Previous Occurrences
According to the data in section 3.1, the County has experienced the following severe weather events that caused economic and/or crop damages since 1961, as listed in Table 3.11.

Table 3.11

Severe Weather Event	Number since 1961
Extreme cold	1
Lightning	3
Wind and Thunder	6
Wind	12
Thunder	13
Winter storms	41

Probability of Future Occurrence
With 76 occurrences in the last 53 years, the probability of future occurrence is **Highly Likely.**

Magnitude/Severity
SHELDUS™ data lists both injuries and fatalities, although the listings are often from multiple counties, resulting in less than whole numbers. Of the severe weather hazard events listed in Table 3.1, seven were listed as having only injuries associated with an event, 11 were listed as having both injuries and fatalities associated with an event, and five were listed as having only fatalities associated with an event.

Property destruction and interruption of essential services for more than 72 hours have been experienced in Trinity County during severe weather events, making the Magnitude/Severity of severe weather **Catastrophic.**

3.2.9 Widespread Infectious Disease/Pandemic Hazard Profile

Description
A pandemic is an outbreak of an infectious disease that spreads across a large region. A flu pandemic occurs when a new influenza virus emerges for which people have little or no immunity, and for which there is no vaccine. The disease spreads easily person- to-person, causes serious illness, and can sweep across the country and around the world in a very short time.

Examples of influenza viruses with pandemic potential include avian influenza A (H5N1) and avian influenza H7N9, which are two different "bird flu" viruses. These are non-human viruses (i.e., they are novel among humans and circulate in birds in parts of the world) so there is little to no immunity against these viruses among people. Human infections with these viruses have occurred rarely, but if either of these viruses was to change in such a way that it was able to infect humans easily and spread easily from person to person, an influenza pandemic could result.

According to the Trinity County Department of Health and Human Services, an especially severe influenza pandemic could lead to high levels of illness, death, social disruption, and economic loss. Numerous people in a wide-range of locations will become seriously ill at the same time.

Geographic Location
The geographic extent of this hazard is **Large**, covering more than 50% of the planning area.

It is difficult to predict exactly how pandemic flu will spread. So determining the geographic impact would depend on a variety of things: 1) How infectious the disease was; 2) If there was already medications and vaccines available; and 3) What group of the population was most vulnerable to disease. In the case of pandemic flu it would most likely impact a large percentage of the population.

Impacts can range from school and business closings to the interruption of basic services such as public transportation and food delivery. Additionally, a substantial percentage of the population will require some form of medical care. Health care facilities can be overwhelmed, creating a medical surge and shortage of hospital staff, beds, ventilators, and other supplies.

Previous Occurrences
According to the Centers for Disease Control and Prevention, the 2009 H1N1 (referred to as "swine flu" early on) was first detected in people in the United States in April 2009. This virus spreads from person-to-person, probably in much the same way that regular seasonal influenza viruses spread. On June 11,

2009, the World Health Organization (WHO) signaled that a pandemic of 2009 H1N1 flu was underway. The 2009 pandemic did affect Trinity County and there were individuals who became ill from H1N1 in our jurisdiction. Table 3.12 shows past pandemics.

Table 3.12

Major Worldwide Pandemics		
Year(s)	Name/String	Effects
1918	"Spanish Flu" H1N1	The most devastating flu pandemic in recent history, killing more than 500,000 people in the United States, and 20 million to 50 million people worldwide.
1957-58	"Asian Flu" H2N2	First identified in China, this virus caused roughly 70,000 deaths in the United States during the 1957-58 season. Because this strain has not circulated in humans since 1968, no one under 40 years old has immunity to this strain.
1968-69	"Hong Kong Flu" H3N2	First detected in Hong Kong, this virus caused roughly 34,000 deaths in the United States during the 1968-69 season. H3N2 viruses still circulate today.
2009-2010	"Swine Flu" H1N1	The CDC estimates that 43 million to 89 million people had H1N1 between April 2009 and April 2010. They estimate between 8,870 and 18,300 H1N1 related deaths.

Probability of Future Occurrence
With four major pandemics occurring since 1918, the chances that there will being another pandemic is **occasional** with a 4% chance of one happening in the next year and a recurrence interval of once every 24 years. However, past occurrences cannot be wholly relied on to predict future pandemics because viruses are living organisms that mutate in unpredictable ways.

Magnitude/Severity
Catastrophic—Multiple deaths; property destroyed and severely damaged; and/or interruption of essential facilities and service for more than 72 hours. Note: While buildings would not be affected by widespread disease, social and economic impacts would be severe.

It is difficult to predict the severity of the next influenza pandemic. According to the Center for Disease Control, a flu virus has the potential to become a pandemic when a non-human influenza virus gains the ability for efficient and sustained human-to-human transmission and then spreads globally.

3.2.10 Wildfire Hazard Profile

Description
Fire conditions arise from a combination of hot weather, an accumulation of vegetation, and low moisture content in air and fuel. These conditions, especially when combined with high winds and years of drought, increase the potential for wildfire to occur. The wildfire risk is predominantly associated with wildland-urban interface areas, areas where development is interspersed or adjacent to landscapes that support wildfire. A fire along this wildland-urban interface can result in major losses of property and structures.

Generally, there are three major factors that sustain wildfires and predict a given area's potential to burn. These factors are fuel, topography, and weather.

- Fuel—Fuel is the material that feeds a fire and is a key factor in wildfire behavior. Fuel is generally classified by type and by volume. Fuel sources are diverse and include everything from dead tree needles and leaves, twigs, and branches to dead standing trees, live trees, brush, and cured grasses. Also to be considered as a fuel source are manmade structures, such as homes and associated combustibles. The type of prevalent fuel directly influences the behavior of wildfire. Light fuels such as grasses burn quickly and serve as a catalyst for fire spread. In addition, ladder fuels can spread a ground fire up through brush and into trees, leading to a devastating crown fire that burns in the upper canopy and cannot be controlled. The volume of available fuel is described in terms of fuel loading.
- Topography—An area's terrain and land slopes affect its susceptibility to wildfire spread. Both fire intensity and rate of spread increase as slope increases due to the tendency of heat from a fire to rise via convection. The arrangement of vegetation throughout a hillside can also contribute to increased fire activity on slopes.
- Weather—Weather components such as temperature, relative humidity, wind, and lightning also affect the potential for wildfire. High temperatures and low relative humidity dry out the fuels that feed the wildfire creating a situation where fuel will more readily ignite and burn more intensely. Wind is the most treacherous weather factor. The greater the wind, the faster a fire will spread and the more intense it will be. In addition to wind speed, wind shifts can occur suddenly due to temperature changes or the interaction of wind with topographical features such as slopes or steep hillsides. Lightning also ignites wildfires, which are often terrain that is difficult for firefighters to reach. Drought conditions contribute to concerns about wildfire vulnerability. During periods of drought, the threat of wildfire increases.

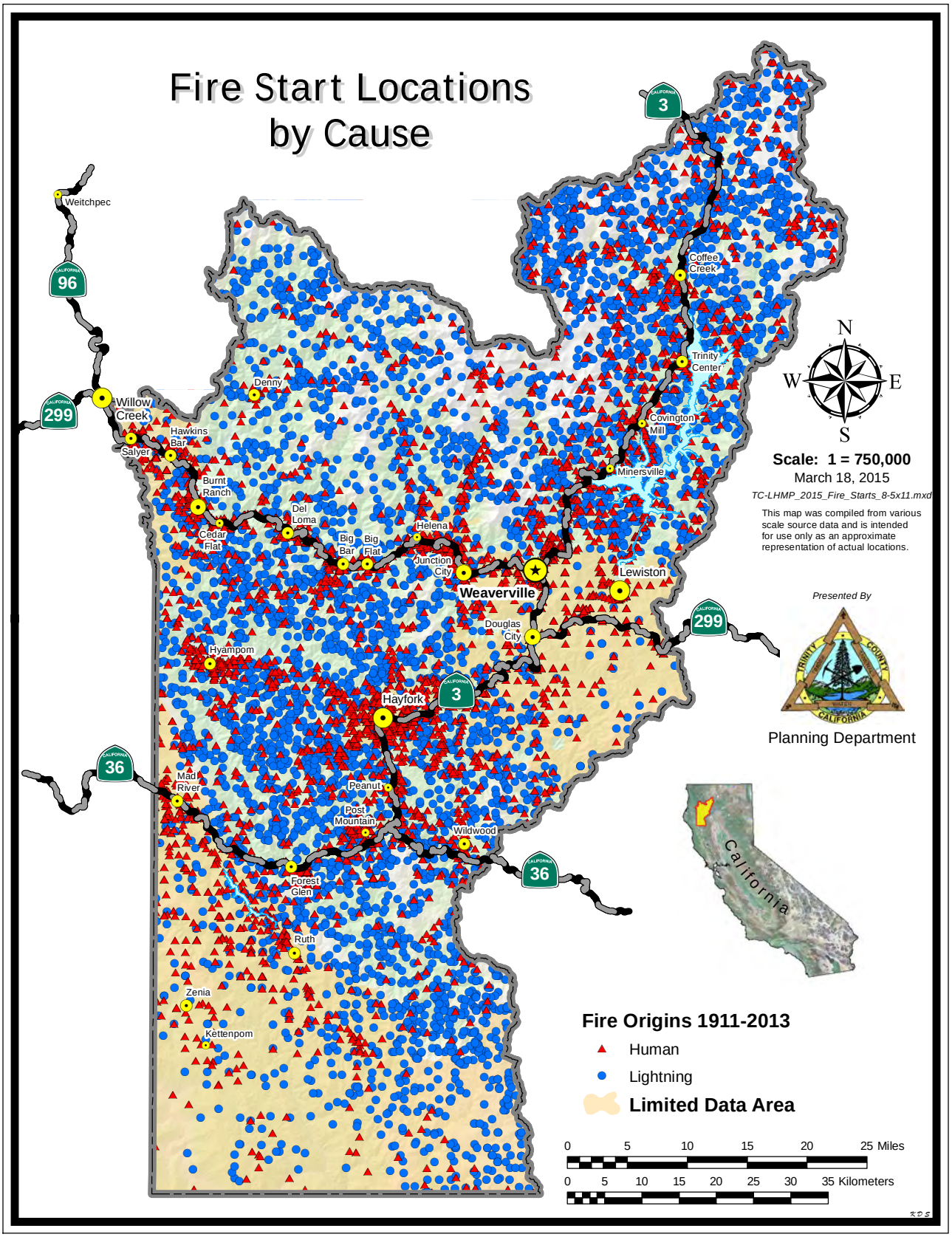
Other factors contributing to the wildfire problem in Trinity County include:

- Overstocked forests, severely overgrown vegetation, and lack of defensible space around structures;
- Excessive vegetation along roadsides and hanging over roads, fire engine access, and evacuation routes;
- Conditions such as drought and overstocked forests contribute to increased pests and disease in weakened and stressed trees;
- Narrow and often one lane and/or dead end roads complicating evacuation and emergency response as well as subdivisions that have only one means of ingress/egress;
- Inadequate or missing street signs on private roads and house address signs;
- Nature and frequency of lightning ignitions; and
- Development in Wildland Urban Interface.

Warning times are usually adequate to ensure public safety, provided that evacuation recommendations and orders are heeded in a timely manner. Due to Trinity County's isolated nature, local Fire Departments are routinely the first on the scene of wildland fires in the County, containing the majority of fires to 10 acres or under. Less than 10% of all fires are over 10 acres in size. Large fires in difficult terrain with the right weather and fuel conditions have burned for months, or until they are completely extinguished by fall rains.

In addition to CalFire and USFS, five fire districts, four community service districts, three volunteer fire companies, and one PUD provide local responsibility fire protection within Trinity County.

Figure 3.8


Fire Start Locations by Cause
Weitchpec
Willow Creek
Hawkins Bar
Salyer
Denny
Burnt Ranch
Del Loma
Cedar Flat
Big Bar
Big Flat
Helena
Junction City
Weaverville
Douglas City
Hyampom
Hayfork
Mad River
Peanut
Post Mountain
Wildwood
Forest Glen
Ruth
Zenia
Kettenpom
Coffee Creek
Trinity Center
Covington Mill
Minersville
Lewiston
N
W
E
S
Scale: 1 = 750,000
March 18, 2015
TC-LHMP_2015_Fire_Starts_8-5x11.mxd
This map was compiled from various scale source data and is intended for use only as an approximate representation of actual locations.
Presented By
Planning Department
California
Fire Origins 1911-2013
Human
Lightning
Limited Data Area
0 5 10 15 20 25 Miles
0 5 10 15 20 25 30 35 Kilometers

Geographic Location

The geographic extent of this hazard in Trinity County is **Large**. More than 50 percent of the planning area is affected. The Safety Element thoroughly reviews the geographic extent of wildfire in the County. Fire starts over the last 100 years are shown in Figure 3.8 .

Previous Occurrences

Trinity County has experienced several catastrophic fires in recent history. As seen in Table 3.13, there were no recorded wild land fires over 15,000 acres in the first 53 years of record keeping. The Hayfork fire in 1964 burned almost 18,700 acres. In the intervening decades, the number of fires over 5,000 acres has grown from low single digits every twenty years to an average of nearly one per year.

The 124,977 acre Megram fire (Big Bar Complex) in 1999 was the result of natural phenomenon combined with management and legal actions. In December 1995 severe windstorms caused an extensive blowdown in the Trinity Alps near the Siskiyou County border. The increase in fuel loading from 5-50 tons per acre to 100-300 tons per acre heightened concerns of severe stand-replacing fire among National Forest managers. While salvage plans were proposed, they were blocked by litigation. When lightning struck in 1999, conditions were ripe. The fire burned from mid-August until autumn rains finally extinguished it in November. At one point, smoke had reduced air quality to the point that the governor declared a state of emergency for a three county area, and many residents of the nearby Hoopa Valley Indian Reservation and nearby communities were forced to leave.

Smaller fires can be extremely destructive if they occur near settlements, including the Lowden fire (1999, 1,945 acres), Oregon fire (2001, 1,695 acres), Junction fire (2006, 3,130 acres) and Coffin fire (2009, 1,098 acres). These fires resulted in not only damaged valuable timberlands, but also caused significant structure and private property loss. Most communities in Trinity County have been under evacuation orders due to wildland fires within the last 15 years. Most fires requiring evacuation orders were over 1000 acres in size. These larger fires are characterized as total stand replacement fires creating significant environmental concerns. Damage to structures caused by wildland fire is occurring more frequently as structures are built in the wildland urban interface and fuel loading increases. Hyampom community members reported the loss of a house in a 2005 wildland fire and the loss of a barn in a 1987 wildland fire.

Table 3.13

Size and Number of Wildfires in Trinity County from 1911 - 2013								
	10 - 100 acres	100-499 acres	500 - 999 acres	1,000 - 4,999 acres	5,000 - 19,999 acres	Over 20,000 acres	Largest for time period	Total
1911 - 1939	51	39	4	12	2	0	14,856	108
1940-1959	21	19	2	4	3	0	8,283	49
1960-1979	17	7	3	2	1	0	18,697	30
1980-1999	17	19	4	17	12	1	124,977	70
2000-2013	52	13	3	20	7	9	65,000	104

Data source: CalFire.

Probability of Future Occurrence
Highly Likely—Near 100 percent chance of occurrence in next year or has a recurrence interval of 10 years or less.

The natural landscape of Trinity County is adapted to fire. Decades of fire suppression has created some dangerous fuel loads in the County, however suppression is no longer seen as the most effective way of living in this landscape.

The Safety Element captures the current thinking regarding wildfire:

"The California Department of Forestry and Fire Protection (CAL FIRE) and the State Board of Forestry and Fire Protection adopted a Strategic Fire Plan for California in 2010. The 2010 Strategic Fire Plan is a strikingly different fire plan than those developed in the past. This Plan recognizes that fire will occur in California and works to answer the question of "how do we utilize and live with that risk of wildfire?" It is useful to Trinity County to frame the wildfire section of the Safety Element of the General Plan with CAL FIRE's vision, goals and objectives to guide the County in answering that question."

Magnitude/Severity
Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths.

Potential losses from wildfire include human life; structures and other improvements; natural and cultural resources; the quality and quantity of the water supply; assets such as timber, range and crop land, and recreational opportunities; and economic losses. Smoke and air pollution from wildfires can be a severe health hazard. In addition, catastrophic wildfire can lead to secondary impacts or losses such as future flooding and landslides and erosion during heavy rains.

3.2.11 Summary of Hazard Risk Assessments

Table 3.14 summarizes the results of the hazard profiles and assigns a level of overall planning significance to each hazard of low, moderate, or high based on the scoring shown below. Significance was determined based on the hazard profile, focusing on key criteria such as frequency and resulting damage, including deaths/injuries and property, crop, and economic damage. This assessment was used by the Steering Committee to prioritize those hazards of greatest significance to the planning area; thus enabling the County to focus resources where they are most needed. Those hazards that occur infrequently or have little or no impact on the planning area were determined to be of low significance. Those hazards determined to be of moderate and high significance were characterized as priority hazards that required further evaluation in Section 3.3 Vulnerability Assessment.

Characteristics of each hazard are assigned a number with 4 being highest and 1 lowest. The characteristic rankings for each hazard is summed to reach the Planning Significance. Table 3.14 Summarizes the rankings.

Geographic Location
This section describes the geographic extent or location of the hazard in the planning area and assesses the affected areas as isolated, small, medium, or large.

4=Large—More than 50 percent of the planning area affected
3=Medium—25-50 percent of the planning area affected
2=Small—10-25 percent of the planning area affected
1= Isolated—Less than 10 percent of the planning area affected

Probability of Future Occurrence

The frequency of past events is used to gage the likelihood of future occurrences. Based on historical data and considering available climate change analysis, the probability of future occurrences is categorized as follows:

4=Highly Likely—Near 100 percent chance of occurrence next year or happens every year

3=Likely—10-100 percent chance of occurrence in next year or has a recurrence interval of 10 years or less

2=Occasional—1-10 percent chance of occurrence in the next year or has a recurrence interval of 11 to 100 years

1=Unlikely—Less than 1 percent chance of occurrence in next 100 years or has a recurrence interval of greater than every 100 years

Magnitude/Severity

This section summarizes the potential magnitude and severity of a hazard event in terms of deaths, injuries, property damage, and interruption of essential facilities and services. Magnitude and severity is classified in the following manner:

4=Catastrophic—Multiple deaths; property destroyed and severely damaged; and/or interruption of essential facilities and service for more than 72 hours

3=Critical—Isolated deaths and/or multiple injuries and illnesses; major or long-term property damage that threatens structural stability; and/or interruption of essential facilities and services for 24-72 hours

2=Limited—Minor injuries and illnesses; minimal property damage that does not threaten structural stability; and/or interruption of essential facilities and services for less than 24 hours

1=Negligible—No or few injuries or illnesses; minor quality of life loss; little or no property damage; and/or brief interruption of essential facilities and services

Table 3.14

Hazard Description	Geographic Location/ Extent	Probability of Future Occurrences	Magnitude/ Severity	Planning Significance
Dam Failure	Small=2	Occasional=2	Catastrophic=4	Moderate=8
Drought	Large=4	Likely=3	Critical=3	High=10
Earthquake*	Isolated=1	Highly likely/ Likely=3.5	Limited=2	Moderate=6.5
Flood	Medium=3	Likely=3	Critical=3	Moderate=9
Hazardous Materials**	Small=2	Highly Likely=4	Limited=2	Low=8
Landslides	Isolated=1	Likely=3	Limited=2	Low=6
Loss of Communications	Large=4	Highly Likely=4	Critical=3	High=11
Severe Weather	Large=4	Highly Likely=4	Catastrophic=4	High=12
Widespread Disease	Large=4	Occasional=2	Catastrophic=4	Moderate=10
Wildfire	Large=4	Highly Likely=4	Catastrophic=4	High=12

*Earthquake received a Moderate ranking, even though the score was low, due to the concern over the County receiving refuges from coastal counties in the event of a large subduction zone quake.

**As shown in Appendix C, HazMat spills are highly likely to occur, but the vast majority of those reported are small localized gasoline and oil spills, not major chemical spills, that is why this is prioritized as “Low” even though receiving a score of 8.

3.3 Vulnerability Assessment

ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT
Requirement
B3. §201.6(c)(2)(ii) [The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. The plan should describe vulnerability in terms of:

§201.6(c)(2)(ii)(A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

§201.6(c)(2)(ii)(B) An estimate of the potential dollar losses to vulnerable structures identified in … this section and a description of the methodology used to prepare the estimate.

§201.6(c)(2)(ii)(C) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

The vulnerability assessment further defines and quantifies populations, buildings, critical facilities and infrastructure, and other community assets at risk to natural hazards. The vulnerability assessment for this plan followed the methodology described in the FEMA publication *Understanding Your Risks—Identifying Hazards and Estimating Losses* (2002).

The vulnerability assessment was conducted on hazards determined to be of moderate or high planning significance using the best available data. Data to support the vulnerability assessment was collected from the same sources identified in Section 3.1 Hazard Identification and Section 3.2 Hazard Profiles, from local agencies, and from FEMA's HAZUS-MH MR3 loss estimation software. The vulnerability assessment includes three sections:

- **3.3.1 Community Asset Inventory**—This section inventories assets exposed to hazards in Trinity County, including the total exposure of people and property; critical facilities and infrastructure; and economic assets. The inventory also includes an assessment of natural resource, cultural and historical assets.

- **3.3.2 Vulnerability by Hazard**—This section describes the County's overall vulnerability to each hazard; identifies existing and future structures, critical facilities, and infrastructure in identified hazard areas; and estimates potential losses to vulnerable structures, where data is available. Only hazards of moderate or high planning significance, or that have identified hazard areas are addressed in the vulnerability assessment.

- **3.3.3 Development and Land Use Trends**—The final section analyzes trends in population growth, housing demand, and land use patterns.

3.3.1 Community Asset Inventory

Total Exposure to Hazards

According to the US Census Bureau, the County population is 13,448. There are no incorporated cities in the County. Table 3.15 shows the total parcel type, number of parcels, and assessed value of improvements to those parcels in Trinity County based on the 2014 County Assessor's parcel database. Land values have been purposely excluded from this table because land remains following disasters, and subsequent market devaluations are frequently short-term and difficult to quantify. Additionally, state and federal disaster assistance programs generally do not address loss of land or its associated value.

Due to California property tax laws, the improved values listed in the County assessor's database underestimate the actual replacement values of the structures.

Table 3.15 – Assessor's database

Parcel Type (as defined by Trinity County Assessors Office)	**Number of Parcels**	**Improvement Values**
Residences	7,271	$780,867,801.00
Religious	34	$7,986,579.00
Office	50	$6,993,528.00
Museum	1	$35,914.00
Commercial	218	$40,414,988.00
Club	23	$6,771,164.00
Government*	98	County Assessor does not track value of Gov't buildings
Volunteer Fire Departments	23	County Assessor does not track value of VFD buildings
Total	**7,718**	**$843,069,974.00**

*Not all government tax parcels represent buildings or office locations. The "Critical Facilities and Infrastructure " Tables 3.14 and 3.15 include county, state and federal buildings, based on available data.

Critical Facilities and Infrastructure

A critical facility is defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. These facilities provide public health and safety services and protection for public and private physical assets throughout the planning area. Because of the rugged topography of the County, Fire Lookout and Repeater sites are critical for wildfire fire spotting and communications. Table 3.16 lists the primary critical facilities and Table 3.17 lists the critical infrastructure for Trinity County. Estimated values are based on several sources, including insured values for County buildings, estimates from the respective agencies, and building replacement costs provided by the County building inspector.

Table 3.16 – Primary Critical Facilities

Facility Type	Agency	Address	Estimated Values
Trinity County Owned Properties*			Real Property Insured Value
Airport complex	County	Weaverville	$408,383.00
County Courthouse	County	Weaverville	$5,089,041.00
County Fair Complex	County	Hayfork	$6,090,080.00
Historical properties	County	Countywide	$2,602,284.00
Juvenile Detention Facility	County	Weaverville	$4,741,847.00
Main Library	County	Weaverville	$1,837,074.00
Office and other	County	Countywide	$5,838,195.00
Recreation and parks	County	Countywide	$3,257,980.00
Sherriff's Complex	County	Weaverville	$4,498,302.00
Shops and storage	County	Countywide	$1,367,425.00
Trinity Life Support Building	County	Weaverville	$321,559.00
Veteran's Memorial Hall	County	Weaverville	$1,083,185.00
Law Enforcement			
TC Sherriff	Trinity County	Weaverville	Included in County Owned
TC Sherriff– sub station	Trinity County	Hayfork	Included in County Owned
CAL Hwy Patrol	State of CA	Weaverville	n/a
Fire Departments and Stations			
Coffee Creek VFD Fire Station	CCVFD	21 Cedar Rd. Coffee Creek, CA 96091	$380,000
Trinity Center VFD Fire Station	TCVFD	111 Trinity Vista St. Trinity Center, CA 96091	$453,520
Weaverville FPD Fire Station #1	WFPD	125 Bremer St. Weaverville, CA 96093	$1,223,619
Weaverville FPD Fire Station #2	WFPD	290 E. Weaver St., Weaverville, CA 96093	$273,850
Lewiston VFD Fire Station	LVFD	200 Texas Ave., Lewiston, CA 96052	$400,000
Junction City VFD Fire Station #1	JCVFD	71A Dutch Creek Rd. Junction City, CA 96048	$522,429
Junction City VFD Fire Station #2	JCVFD	71B Dutch Creek Rd. Junction City, CA 96048	$165,948
Junction City VFD Fire Station #3	JCVFD	5201 Canyon Creek Rd. Junction City, CA 96048	$92,193
Junction City VFD Fire Station #4	JCVFD	30 Lois Lane Junction City, CA 96048	$98,497
Douglas City VFD Fire Station #1	DCVFD	Douglas City, CA	n/a
Douglas City VFD Fire Station #2	DCVFD	Douglas City, CA	n/a

Facility Type	Agency	Address	Estimated Values
Hayfork FPD Fire Station #1	HFPD	7220 Hwy. 3, Hayfork CA 96041	$175,000
Hayfork FPD Fire Station #2	HFPD	195 Hyampom Rd., Hayfork, CA 96041	$250,000
Kettenpom VFD Fire Station	KVFD	400 Zenia Lake Mtn. Rd., Zenia, CA 95595	$130,000
Southern Trinity VFD Fire Station #1	STVFD	Forest Hwy #12, 221 Hasting Tye Rd., Mad River CA 95552	$337,100
Southern Trinity VFD Fire Station #2	STVFD	Lot 22, Ruth Lake CSD, County Rd. 501, Ruth CA 95552	$638,142
Hawkins Bar VFD Fire Station	HBVFD	71 Trinity Ct., Hawkins Bar, CA 95563	$191,588
Post Mountain VFD Fire Station	PMVFD	721 White Oak, Trinity Pines, CA 96041	$250,000
Salyer VFD Fire Station	SVFD	275 Loop Rd., Salyer, CA Bldg. #1 Bldg. #2	 $199,251 $115,850
Hyampom VFD Fire Station	HVFD	22509 Hyampom Rd., Hyampom	$352,000
Down River VFD Fire Station	DRVFD	70 Fire House Rd., Big Flat, CA 96010	$300,000
Burnt Ranch VFD Fire Station	BRVFD	34 School House Rd., Burnt Ranch, CA 95527	$63,863
Hayfork Forest Fire Station	CalFire**	5 One Wizard Way, Hayfork	$ 4 million
Fawn Lodge Forest Fire Station	CalFire**	60 Fawn lodge Road, Lewiston	$ 5 million
Weaverville Forest Fire Station	CalFire**	33400 Hwy 3, Weaverville	$ 4 million
Trinity Helibase	USFS	Weaverville Ranger District	$1.8 million
Junction City - Fire Station	USFS	Big Bar Ranger District	$1.2 million
Burnt Ranch - Fire Station	USFS	Big Bar Ranger District	$896,000
Big Bar Fire Station	USFS	Big Bar Ranger District	$4.2 million
Forest Glenn - Fire Station	USFS	Hayfork Ranger District	
Zenia - Fire Station	USFS	Mad River Ranger District	
Ruth - Fire Station	USFS	Mad River Ranger District	
Mule Creek Fire Station	USFS	Weaverville Ranger District	$1.6 million
Weaverville Fire Station	USFS	Weaverville Ranger District	$9.8 million
Mad River - Fire Station	USFS	Mad River Ranger District	
Salyer - Fire Station	USFS	Lower Trinity Ranger District	
Coffee Creek Fire Station	USFS	Weaverville Ranger District	$4.6 million
Hayfork Fire Station	USFS	Hayfork Ranger District	$11.8 million

Facility Type	Agency	Address	Estimated Values
Fire Lookout and Repeater Sites			
Bully Choop Lookout and Repeater	CalFire**	County Line Road	$1.5 million
Hoadley Peak Repeater	CalFire**	County Line Road	$ 1 million
Oregon Mountain Radio Facility	County	Oregon Mountain	$1.5 million
Carville Radio Tower	County	Carville	n/a
Picket Peak Lookout and Repeater	USFS	Hayfork Ranger District	$1.5 million
Plummer Peak Lookout and Repeater	USFS	Hayfork Ranger District	$1.5 million
Hayfork Bally Lookout and Repeater	USFS	Hayfork Ranger District	$1.5 million
Horse Ridge Lookout and Repeater	USFS	Mad River Ranger District	$1.5 million
McFarland Ridge Radio Tower	USFS	McFarland Ridge	$1 million
Scott Mountain Radio Tower	USFS	Scott Mountain	$1 million
Weaver Bally Lookout and Repeater	USFS	Weaverville Ranger District	$1.5 million
Bonanza King Lookout and Repeater	USFS	Weaverville Ranger District	$1.5 million
Ironsides Lookout and Repeater	USFS	Big Bar Ranger District	$1.5 million
Medical Facilities			
Trinity Hospital	Mt. Communities Healthcare District	60 Easter Avenue, Weaverville, CA 96093	n/a
Hayfork Community Clinic	Mt. Communities Healthcare District	6961 Highway 3, Hayfork, CA 96041	n/a
Ambulance Service			
Trinity Life Support	TLS	Lowden Park Weaverville	Included in County Owned
Trinity Life Support	TLS	Main St, Hayfork	Included in County Owned
Southern Trinity Ambulance Service	STAR		n/a

****** Estimates provided by S. Pourian, Trinity County Risk Assessment Officer, based on insured real property values.*
*** CalFire estimates provided by A. Reiling, CalFire Battalion Chief.*

Trinity County critical infrastructure, Table 3.17, includes schools, which have served as evacuation facilities during past disasters, water districts, sewer treatment plants, power plants and public meeting places. Trinity County has approximately 17 Community Water Districts, the majority serving a population of less than 50. There are six districts serving populations over 50 and they are listed in the Critical Infrastructure table.

Table 3.17 Critical Infrastructure

Facility Type	Agency	Address	Estimated Values
Schools			
Weaverville Elementary School & Trinity Alps Prep.	Trinity Alps Unified School District	31020 State Highway 3, Weaverville, CA 96093	$13,812,279
Trinity High School	Trinity Alps Unified School District	321 Victory Lane, Weaverville, CA 96093	$14,260,565
Coffee Creek School	Trinity County Office of Education (TCOE)	HC 2, Box 4740, Coffee Creek Rd., Trinity Center, CA 96091	$948,879
Trinity Center School	Trinity County Office of Education (TCOE)	1 Trinity Vista Dr., Trinity Center, CA 96091	$1 million (estimate)
Lewiston School	Trinity County Office of Education (TCOE)	685 Lewiston Rd., Lewiston, CA 96052	$1 million (estimate)
Douglas City School	Trinity County Office of Education (TCOE)	School Rd., Douglas City, CA 96024	$4,314,680
Junction City School	Trinity County Office of Education (TCOE)	430 Red Hill Rd., Junction City, CA 96048	$1 million (estimate)
Cox Bar School	Trinity Alps Unified School District	Hwy 299W Corral Bottom Rd., Big Bar, CA 96010	$1,084,846
Burnt Ranch School	Trinity County Office of Education (TCOE)	School House Rd., Burnt Ranch, CA 95527	$3,448,564
Hayfork High School	Mountain Valley Unified School District	10 Oak St., Hayfork, CA 96041	$12,367,105
Valley High School	Mountain Valley Unified School District	160a Tule Creek Rd., Hayfork, CA 96041	$204,489
Hayfork Elementary School	Mountain Valley Unified School District	Highway 3 & School Way, Hayfork, CA 96041	$11,542,390
Hyampom Arts Magnet School	Mountain Valley Unified School District	Corral Bottom Rd., Hyampom, CA 96046	$1,150,649
Southern Trinity High School	Southern Trinity Joint Unified School District	680 Van Duzen River Road, Bridgeville, CA 95526	$5,511,060
Mt. Lassic High School	Southern Trinity Joint Unified School District	600 Van Duzen River Road, Bridgeville, CA 95526	$219,360
Van Duzen School	Southern Trinity Joint Unified School District	680 Van Duzen River Road, Bridgeville, CA 95526	$4,641,580
Hoaglin Zenia School	Southern Trinity Joint Unified School District	HC 62 Box 54 Zenia CA 95595	$904,910
Water and Sewer Districts			Estimated value
Hayfork – Water and Sewer	Trinity County Waterworks District #1	320 Reservoir Rd. Hayfork, CA 96041	n/a
Lewiston – Water and Sewer	Lewiston Park Mutual Water Company	Intake on Trinity River	n/a

Facility Type	Agency	Address	Estimated Values
Lewiston – Water and Sewer	Lewiston Community Services District	Intake on Trinity River 130 Texas, Lewiston	n/a
Rush Creek – Water	Rush Creek Mutual Water System	Intake on Rush Creek	n/a
Ruth – Water	Ruth Mutual Water Company	Primary source is ground water	n/a
Trinity Center - Water	Trinity Center Mutual Water Company	Intake on Swift Creek	n/a
Weaverville - Water	Weaverville Community Services District	Intakes at East Weaver Creek and Near HWY 299 bridge at Douglas City; Other infrastructure:	n/a
Weaverville - Sewer	Weaverville Sanitary District	Treatment plant at end of Mtn. View Road.	n/a
Power			
Trinity Dam Power House and TPUD power substations	Trinity PUD	See map (Figure 3.9) of substations. Serves majority of County.	n/a
PG&E transmission lines	PG&E	Serves the communities of Salyer, Denny, Hawkins Bar, Burnt Ranch, Del Loma, Mad River, Zenia, Ruth and Kettenpom	n/a
Public Meeting Places			
North Fork Grange Hall	North Fork Grange	Dutch Creek Rd. Junction City	n/a
Veteran's Memorial Hall	County	Weaverville	Listed in County Owned
Other			
Trinity River Conservation Camp	CalFire**	3325 Pettijohn Rd., Lewiston	$7 million
Airports			n/a

The Trinity River Conservation Camp is listed as it provides critical support to the County. According to the California Department of Corrections and Rehabilitation website **(http://www.cdcr.ca.gov/Conservation_Camps/Camps/Trinity_River/index.html):

During the 2009 calendar year the Trinity River Conservation Camp, through Conservation and work projects, provided the local communities with 67,984 work hours to Local, State and Federal government agencies. In addition to project and conservation work, the inmate fire crews provided 83,800 hours in fire-fighting and other emergency work. It is estimated through the emergency responses to fires, other emergencies, and project work, the CDCR inmates at Trinity River Conservation Camp #3 provided a cost avoidance to the taxpayers of California of $1,347,880.00.

The Camp is jointly operated by the California Department of Corrections and Rehabilitation (CDCR) and the California Department of Forestry and Fire Protection (CAL-FIRE). The primary mission of the camp is to provide inmate fire crews for fire suppression, principally in the Trinity, Shasta, and Siskiyou

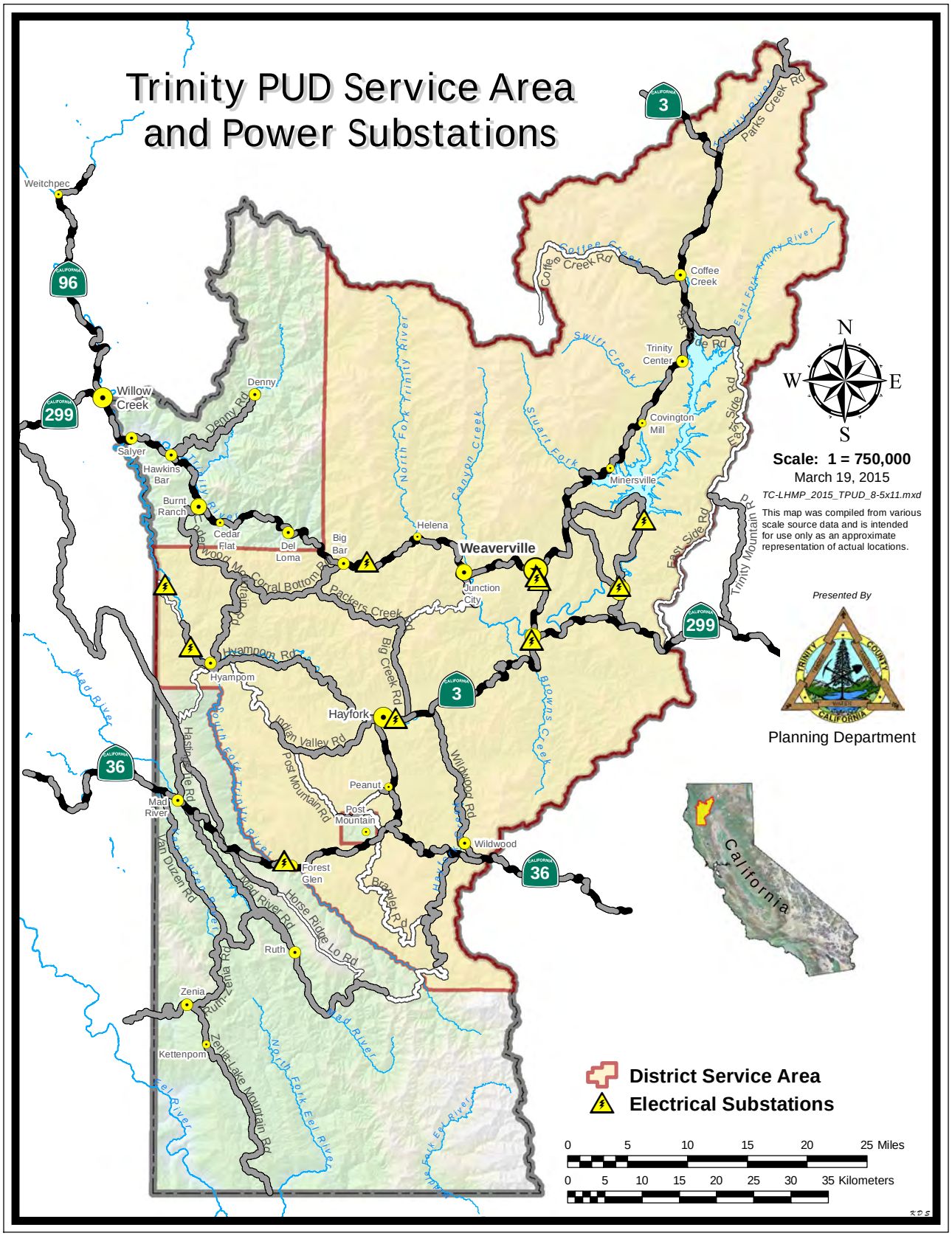
County areas. In addition to fire suppression, inmate hand crews provide a work force for floods, conservation projects, and community services for Local, State, and Federal government agencies. CC #3 In-camp projects include a saw mill, and a mill and cabinet shop where the inmate crews build and repair office furniture, construct wood signs, and fabricate picnic benches for tax supported, government agencies. Additionally, Trinity River Conservation Camp has a Mobile Kitchen Unit, which provides feeding for thousands of fire fighters during emergency assignments on fires, flood control and natural disasters.

Table 3.18 summarizes available estimated values

Table 3.18

Facility Types	**Totals**
Assessor's database	**$843,069,974.00**
County owned	**$37,135,355.00**
Critical Facilities	**$68,508,850.00**
Critical Infrastructure (Schools and CalFire Camp only)	**$84,411,356.00**
Total	**$1,033,125,535.00**

Figure 3.9


Trinity PUD Service Area
and Power Substations
Weitchpec
Willow Creek
Salyer
Hawkins Bar
Burnt Ranch
Cedar Flat
Del Loma
Big Bar
Helena
Weaverville
Junction City
Hyampom
Hayfork
Peanut
Post Mountain
Wildwood
Forest Glen
Mad River
Ruth
Zenia
Kettenpom
Denny
Trinity Center
Coffee Creek
Covington Mill
Minersville
Parks Creek Rd
Coffee Creek Rd
Swift Creek
Canyon Creek
Stuart Fork
East Side Rd
Trinity Mountain Rd
Denny Rd
Hyampom Rd
Coral Bottom Rd
Packers Creek Rd
Big Creek Rd
Indian Valley Rd
Post Mountain Rd
Wildwood Rd
Browns Creek
Hayfork Rd
Hastain Ridge Rd
Van Duzen Rd
Mad River Rd
Horse Ridge Lo Rd
Ruth-Zenia Rd
Zenia-Lake Mountain Rd
North Fork Trinity River
South Fork Trinity River
North Fork Mad River
North Fork Eel River
Eel River
Middle Fork Eel River
Yolla Bolly Middle Eel Wilderness
96
299
3
36
N
W
E
S
Scale: 1 = 750,000
March 19, 2015
TC-LHMP_2015_TPUD_8-5x11.mxd
This map was compiled from various scale source data and is intended for use only as an approximate representation of actual locations.
Presented By
Planning Department
California
District Service Area
Electrical Substations
0 5 10 15 20 25 Miles
0 5 10 15 20 25 30 35 Kilometers

Economic Assets

Economic assets at risk include major employers or primary economic sectors. After a disaster, economic vitality is the engine that drives recovery. Every community has a specific set of economic drivers, which are important to understand when planning ahead to reduce disaster impacts to the economy. When major employers are unable to return to normal operations, impacts ripple throughout the community. Table 3.19 lists industry types for Trinity County. It is obvious that federal, state and local government are the main employers within the County. Large private employers include the utility districts and the Trinity River Lumber Mill.

Table 3.19

Year	Month	Industry Title	Number employed
2014	Oct	Total Wage and Salary	3,160
2014	Oct	Total Nonfarm	3,110
2014	Oct	Service Providing	2,820
2014	Oct	Total Private	1,680
2014	Oct	Government	1,440
2014	Oct	State and Local Government	1,120
2014	Oct	Local Government	1,000
2014	Oct	Leisure and Hospitality	430
2014	Oct	Trade, Transportation and Utilities	410
2014	Oct	Federal Government	320
2014	Oct	Goods Producing	290
2014	Oct	Private Service Providing - Residual	270
2014	Oct	Educational and Health Services	230
2014	Oct	Manufacturing	180
2014	Oct	Natural Resources, Mining and Construction	120
2014	Oct	State Government	120
2014	Oct	Financial Activities	50
2014	Oct	Total Farm	40

Source: State of California Employment Development Department.

Natural, Historic, and Cultural Assets

Assessing the vulnerability of Trinity County to disaster also involves inventorying the natural, historic, and cultural assets of the area. This step is important for the following reasons:

- The community may decide that these types of resources warrant a greater degree of protection due to their unique and irreplaceable nature and contribution to the overall economy.
- If these resources are impacted by a disaster, knowing so ahead of time allows for more prudent care in the immediate aftermath, when the potential for additional impacts are higher.

- The rules for reconstruction, restoration, rehabilitation, and/or replacement are often different for these types of designated resources.

Natural resources can have beneficial functions that reduce the impacts of natural hazards, such as wetlands and riparian habitat, which help absorb and attenuate floodwaters.

Natural Resources

Trinity County has a variety of natural resource assets that to a large extent serve as the basis for the county's economy and quality of life. These assets include timber, water, critical species, and wildlife and plant habitat.

Standing timber in the County was valued at $7.8 million dollars in 2012 by the County Agricultural Commissioners' Reports and State Board of Equalization Timber Tax Division. Additionally, timber is a valued source for carbon sequestration, which is one source of mitigation for climate change. (http://www.nass.usda.gov/Statistics_by_State/California/Publications/AgComm/201212cactb00.pdf accessed 12/10/2014)

Trinity County water is exported to the Central Valley Project through tunnels to Whiskeytown Reservoir and then released into the Sacramento River system. A portion of the water behind the Trinity and Lewiston Dams is designated to be released into the Trinity River for the benefit of salmonids. The amount varies each year as described in the Bureau of Reclamation's Trinity River Record of Decision (2000).

Critical species in the county are listed below:

US Fish and Wildlife (federal) listings

KEY:
(PE) Proposed Endangered Proposed in the Federal Register as being in danger of extinction
(PT) Proposed Threatened Proposed as likely to become endangered within the foreseeable future
(E) Endangered Listed in the Federal Register as being in danger of extinction
(T) Threatened Listed as likely to become endangered within the foreseeable future
(C) Candidate Candidate which may become a proposed species Habitat Y = Designated, P = Proposed, N = None Designated

Scientific Name	Common Name	Category	Critical Habitat
Acipenser medirostris	green sturgeon	T	Y
Hypomesus transpacificus	delta smelt	T	Y
Oncorhynchus kisutch	S. OR/N. CA coho salmon	T	Y
Oncorhynchus mykiss	Central Valley steelhead	T	Y
Oncorhynchus mykiss	Northern California steelhead	T	Y
Oncorhynchus tshawytscha	CA coastal chinook salmon	T	Y
Oncorhynchus tshawytscha	Central Valley fall/late-fall chinook salmon	C	N
Oncorhynchus tshawytscha	Central Valley spring-run chinook salmon	T	Y
Oncorhynchus tshawytscha	winter-run chinook salmon	E	Y
Coccyzus americanus	Western yellow-billed cuckoo	T	Y
Strix occidentalis caurina	northern spotted owl	T	Y
Martes pennanti	fisher, West Coast DPS	PT	P

California State listings

Trinity Bristle Snail - *Monadenia infumata setosa*
Mountain yellow - legged frog - northern California DPS; *Rana muscosa*

Wildlife and plant habitat in Trinity County is varied and extensive. The majority of the County is undeveloped and provides a variety of natural habitats for plant and animal species. Because of the unique geology of the County, several plant species are endemic to the County and found nowhere else.

Historic and Cultural Assets

Trinity County has five places listed on the National Register of Historic Places:

Bowerman Barn , located Southwest of Trinity Center on Guy Covington Dr., Trinity Center
De-No-To Cultural District, Hupa cultural area near Onemile Camp
Helena Historic District , North of U.S. Route 299, W., on the North Fork of the Trinity River
Lewiston Historic District , roughly Deadwood, Turnpike, and Schoolhouse Rds.
Weaverville Historic District, both sides of Main Street

Additionally, the Joss House on Main St. in Weaverville, run by California State Parks, is listed as a California Historical Landmark.

3.3.2 Vulnerability by Hazard

This section describes overall vulnerability and identifies structures and estimates potential losses to buildings, infrastructure, and critical facilities located in identified hazard areas, where data permits.

This assessment was limited to the hazards that were considered moderate or high in planning significance (as shown in Table 3.14 on page 3.42), based on the Steering Committee input and the hazard profiles. Hazards ranked of low significance due to a lack of notable past damage or very low probabilities are not included in the vulnerability assessment. These include hazardous materials and landslides. Vulnerability for these hazards are discussed in qualitative terms in Section 3.2 Hazard Profiles and are covered in the Trinity County Emergency Operations Plan and Safety Element.

Dam Failure
Planning Significance: Moderate

Potential Impact to Existing Development
Although there is no specific evidence to indicate the likelihood of dam failure within the County, there are several high hazard dams located in the County. A dam failure could result in impacts greater than the 100-year flood event and could be catastrophic. Structures immediately downstream of dams are vulnerable to flooding if there is a failure. Areas considered most vulnerable to inundation due to dam failure are downstream of the larger reservoirs, particularly Lewiston, Douglas City, and Junction City on the Trinity River; Hayfork below Ewing Reservoir; and XXX below Matthews dam. The HBMWD Annex Chapter 6 addresses the vulnerability of Matthews Dam.

Dam failure of Buckhorn Dam was analyzed in the Safety Element, summarized here:
According the Bureau of Reclamation Emergency Action Plan for Buckhorn Dam, Probable Maximum Flood (PMF), would

- *Endanger people fishing, picnicking, and hiking along Grass Valley Creek*
- *Flood the I.O.O.F. Camp (8 full-time residents, considerably more people during the summer months) washing away two vehicle bridges, a foot bridge, and several houses. Sewage or hazardous material present on site, including household propane tanks, would potentially mix with the floodwaters and debris.*
- *Inundate State Highway 299 from a point 4.5 miles to 6.5 miles downstream from the dam*
- *Inundate CAL FIRE Station #61 (Fawn Lodge) and other residential dwellings located in close proximity to the station*
- *Reach the Trinity River nine miles downstream within 45 minutes, bringing tons of sediment and other debris into the river, which would have at least a short-term severe negative impact on fisheries and other aquatic life.*
- *Pose a potential threat to low-lying areas of the floodplain along the Trinity River for approximately 10 miles downstream from its confluence with Grass Valley Creek.*

GIS inundation maps for both Trinity/Lewiston Dams and Ewing Dam failures were placed over structure data and analyzed to gather the data listed in Tables 3.20 and 3.21.

Table 3.20

Trinity/Lewiston Dam Inundation Summary		
Type of Structure	Number of Structures	Improvement Values
Club	3	$ 325,030.00
Commercial	24	$ 3,258,628.00
Government	13	$ -
Offices	1	$ 81,129.00
Religious	4	$ 3,296,930.00
Residence	1556	$ 213,835,381.00
VFD	6	-
Total		**$ 220,797,098.00**

Table 3.21

Ewing Dam Inundation Summary		
Type of Structure	Number of Structures	Improvement Values
Commercial	18	$ 2,427,619.00
Government (Hayfork High School)	1	$ 12,367,105.00
Offices	2	$ 103,380.00
Religious	1	$ 218,212.00
Residence	70	$ 3,176,743.00
VFD - Hayfork Old station	1	$ 387,043.00
Total		**$ 18,680,102.00**

Potential Impact to New Development

Flooding due to a dam failure event is likely to exceed the special flood hazard areas regulated through local floodplain ordinances. The County should consider the dam failure hazard when permitting development downstream of high and significant hazard dams in the County. Low hazard dams could become significant or high hazard dams if development occurs below them. Emergency plans for all dams in the County are maintained at the Office of Emergency Services.

Drought

Planning Significance: High

Potential Impact to Existing Development

Drought affects the water supply of communities and water districts in the County, as well as agricultural irrigation on a more widespread scale, affecting the economy. It normally does not impact any buildings or structures and can be difficult to identify specific hazard areas, except in the case of wildfire. Data is not available to estimate potential losses from drought on buildings or any structures.

The types of drought were outlined in the drought hazard profile, section 3.2.2. Trinity County is especially vulnerable to continuing drought due to the unauthorized use of surface water by marijuana growers. While marijuana is likely the largest cash crop in the County, the majority of “growers” do not follow standard Best Management Practices for water conservation. Figure 3.10 illustrates how socioeconomic drought will continue to plague the County even after precipitation and snow packs return to normal.

During the summer of 2014, many residents in the County experienced dry wells and loss of surface water that hadn’t been recorded in over 30 years. If existing structures do not have potable water available, they will lose the majority of their value as single family residences. With an unmeasured amount of ground water stores, there are no guarantees that existing wells will continue to provide into the future with continuing drought conditions.

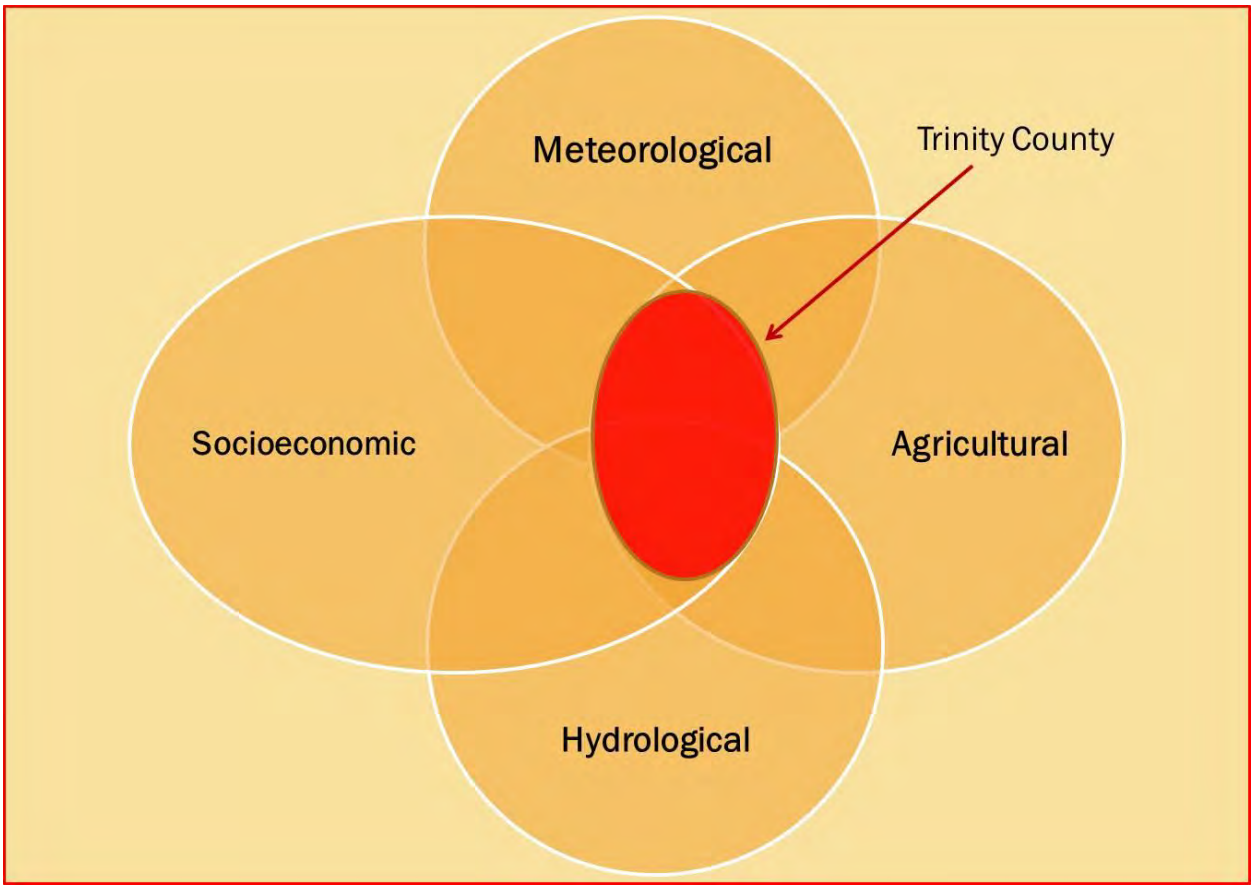


Figure 3.10. This Venn Diagram illustrates how all four types of drought are affecting the County, with Socioeconomic drought being weighted heavier than the other three types.

Drought plays a critical role in the intensity and longevity of wildfires. With increased drought, fuel loads become increasingly dry and much more susceptible to ignition. Once ignited, shortages of water near the fires can hamper suppression efforts. Wildlife is also impacted by drought, leaving animals more prone to disease and more likely to move into communities in search of water. Endangered salmonids are also impacted when streams and river go sub-surface or heat up to dangerous levels.

Existing business developments have suffered during the 2014 drought, with several tourist-dependent businesses closing down due to the slowdown in boating and fishing tourism. Campgrounds were also closed by the US Forest Service due to lack of water, which turned away tourist dollars from the County. Long-term climate change and the potential for less rain and reduced snow pack in the future is another factor in gauging overall vulnerability to drought.

Potential Impact to New Development

Continued drought could severely limit new development in the County, as new residences are required to have potable water. In September 2014, Trinity Reservoir was at 23% of capacity, dry-docking nearly all of the boat docks on the lake. The County depends on tourism for future development and continuing drought conditions would severely limit new development in that area.

2014 saw a significant rise in permit activity for water development, however there was no direct correlation to residential development. There are currently no regulations regarding well drilling on land

without permanent structures, a practice followed by marijuana growers with no intention of becoming part of the community.

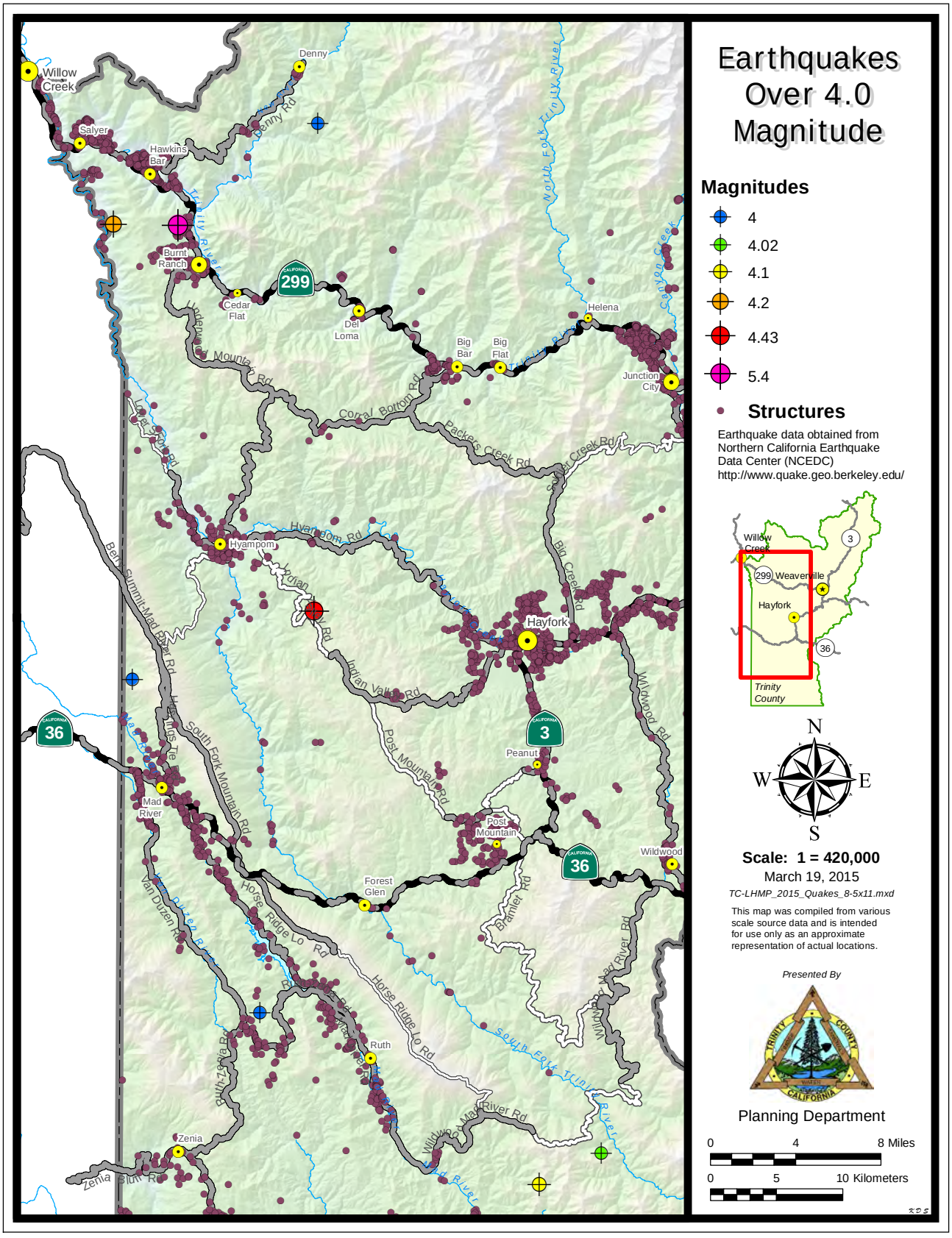
Earthquake
Planning Significance: Moderate

Potential Impact to Existing Development
Based on past incidences of earthquakes in Trinity County, GIS analysis was used to assess the value and number of structures within a 5 mile range of earthquakes over 4.0 magnitude as shown in Table 3.22. Improved values are estimated based on available data.

Table 3.22
Earthquakes over 4.0 magnitude on the Richter Scale (Shown on map – Figure 3.11)

Date	Magnitude	Average Effects	Approximate number and value of Trinity County structures within 5 miles of this quake
7/9/1961	4	Noticeable shaking of indoor objects and rattling noises. Felt by most people in the affected area. Slightly felt outside. Generally causes none to minimal damage. Moderate to significant damage very unlikely. Some objects may fall off shelves or be knocked over.	120 residences – improved values $7,372,561; Matthews Dam – see Annex Chapter 6
4/29/1980	4	Ditto	86 structures including Van Duzen School and Southern Trinity High School – improved values $12,345,609
7/23/1997	4	Ditto	28 residences – improved values $1,938568
12/4/1994	4.02	Ditto	1 residence - improved value $35,092
5/2/1995	4.1	Ditto	15 residences - improved values $919,972
10/15/1998	4.2	Ditto	Overlap with the 5.4 quake. No additional values to add.
3/9/1992	4.43	Ditto	75 structures, including County Hyampom Road shop and Hyampom School – improved values $8,777.167
4/30/2008	5.4	Can cause damage of varying severity to poorly constructed buildings. At most, none to slight damage to all other buildings. Felt by everyone. Casualties range from none to a few.	410 structures including Burnt Ranch School – improved values $49,905,511

Figure 3.11


Earthquakes Over 4.0 Magnitude
Magnitudes
4
4.02
4.1
4.2
4.43
5.4
Structures
Earthquake data obtained from Northern California Earthquake Data Center (NCEDC)
http://www.quake.geo.berkeley.edu/
Willow Creek
Weaverville
Hayfork
Trinity County
N
W
E
S
Scale: 1 = 420,000
March 19, 2015
TC-LHMP_2015_Quakes_8-5x11.mxd
This map was compiled from various scale source data and is intended for use only as an approximate representation of actual locations.
Presented By
Planning Department
0 4 8 Miles
0 5 10 Kilometers
Willow Creek
Denny
Salyer
Hawkins Bar
Burnt Ranch
Cedar Flat
Del Loma
Big Bar
Big Flat
Helena
Junction City
Hyampom
Hayfork
Peanut
Post Mountain
Wildwood
Forest Glen
Mad River
Ruth
Zenia
299
36
3

Potential Impact to New Development

The location of the most active areas and potential for most ground shaking are in sparsely populated areas of the County, so impact to new development is limited. All new construction in the County must meet the California Building Codes per the County Housing Element.

Flood
Planning Significance: Moderate

ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT
Requirement
B4. §201.6(c)(2)(ii) All plans approved after October 1, 2008 must also address NFIP insured structures that have been repetitively damaged by floods.

Personal communication from Xing Liu, FEMA NFIP Planner, Oakland, CA (March 2014): Trinity County joined the NFIP through regular entry on 08/16/1988. Repetitive loss: there is no repetitive loss in Trinity County.
The following is a summary of flood insurance coverage in the County provided by FEMA:

Total by Community		**Group Flood Insurance**	
Total Number of Policies:	115	**Total Number of Policies:**	0
Total Premiums:	$90,305	**Total Premiums:**	$0
Insurance in Force:	$24,716,400	**Insurance in Force:**	$0
Total Number of Closed Paid Losses:	6	**Total Number of Closed Paid Losses:**	0
$ of Closed Paid Losses:	$7,924.20	**$ of Closed Paid Losses:**	$0
Post Firm Minus Rated Policies		**Manufactured Homes**	
Total Number of Minus Rated Policies:	3	**Total Number of Policies:**	2
A Zone Minus Rated Policies:	3	**Total Number of Closed Paid Losses:**	0
V Zone Minus Rated Policies:	0	**$ of Closed Paid Losses:**	$0
ICC			
Total Number of ICC Closed Paid Losses:	0		
$ of ICC Closed Paid Losses:	$0		
Substantial Damage Losses			
Number of Substantial Damage Closed Paid Losses:	1		

	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	$ of Closed Paid Losses	Adjustment Expense
Single Family	96	$83,202	$24,097,300	6	$7,924.20	$1,375.00
2-4 Family	0	$0	$0	0	$0.00	$0.00
All Other Residential	0	$0	$0	0	$0.00	$0.00
Non Residential	19	$7,103	$619,100	0	$0.00	$0.00
Total	115	$90,305	$24,716,400	6	$7,924.20	$1,375.00

	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	$ of Closed Paid Losses	Adjustment Expense
A01-30 & AE Zones	36	$26,155	$5,358,700	0	$0.00	$0.00
A Zones	26	$36,821	$5,317,700	3	$3,290.54	$725.00
AO Zones	1	$1,649	$163,600	0	$0.00	$0.00
AH Zones	0	$0	$0	0	$0.00	$0.00
AR Zones	0	$0	$0	0	$0.00	$0.00
A99 Zones	0	$0	$0	0	$0.00	$0.00
V01-30 & VE Zones	0	$0	$0	0	$0.00	$0.00
V Zones	0	$0	$0	0	$0.00	$0.00
D Zones	1	$908	$106,500	0	$0.00	$0.00
B, C & X Zone	51	$24,772	$13,769,900	3	$4,633.66	$650
Standard	8	$7,660	$1,421,900	1	$478.63	$150.00
Preferred	43	$17,112	$12,348,000	2	$4,155.03	$500.00
Total	115	$90,305	$24,716,400	6	$7,924.20	$1,375.00

Pre-FIRM						
	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	$ of Closed Paid Losses	Adjustment Expense
A01-30 & AE Zones	25	$21,255	$2,959,500	0	$0.00	$0.00
A Zones	15	$22,132	$3,154,000	3	$3,290.54	$725.00
AO Zones	1	$1,649	$163,600	0	$0.00	$0.00
AH Zones	0	$0	$0	0	$0.00	$0.00
AR Zones	0	$0	$0	0	$0.00	$0.00
A99 Zones	0	$0	$0	0	$0.00	$0.00
V01-30 & VE Zones	0	$0	$0	0	$0.00	$0.00
V Zones	0	$0	$0	0	$0.00	$0.00
D Zones	1	$908	$106,500	0	$0.00	$0.00
B, C & X Zone	35	$17,530	$9,457,100	3	$4,633.66	$650.00
Standard	4	$5,509	$1,029,100	1	$478.63	$150.00
Preferred	31	$12,021	$8,428,000	2	$4,155.03	$500.00
Grand Total	77	$63,474	$15,840,700	6	$7,924.20	$1,375.00

Post-FIRM						
	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	$ of Closed Paid Losses	Adjustment Expense
A01-30 & AE Zones	11	$4,900	$2,399,200	0	$0.00	$0.00
A Zones	11	$14,689	$2,163,700	0	$0.00	$0.00
AO Zones	0	$0	$0	0	$0.00	$0.00
AH Zones	0	$0	$0	0	$0.00	$0.00
AR Zones	0	$0	$0	0	$0.00	$0.00
A99 Zones	0	$0	$0	0	$0.00	$0.00
V01-30 & VE Zones	0	$0	$0	0	$0.00	$0.00
V Zones	0	$0	$0	0	$0.00	$0.00
D Zones	0	$0	$0	0	$0.00	$0.00
B, C & X Zone	16	$7,242	$4,312,800	0	$0.00	$0.00
Standard	4	$2,151	$392,800	0	$0.00	$0.00
Preferred	12	$5,091	$3,920,000	0	$0.00	$0.00
Grand Total	38	$26,831	$8,875,700	0	$0.00	$0.00

Potential Impact to Existing Development

Overall vulnerability to flooding is moderate. The most significant vulnerabilities are illustrated in the following maps. FEMA does not survey all communities in Trinity County. Data is from FEMA and Trinity County Tax Assessor's records. The maps, Figures 3.12 – 3.19, represent the most current and available data.

FEMA does not map Hyampom at the South Fork Trinity River and Hayfork Creek confluence. Historical flooding has taken place in Hyampom, most notably during the 1964 floods. The Hyampom airport was lost and could be at risk if another major rain on snow event were to take place.

Figure 3.12

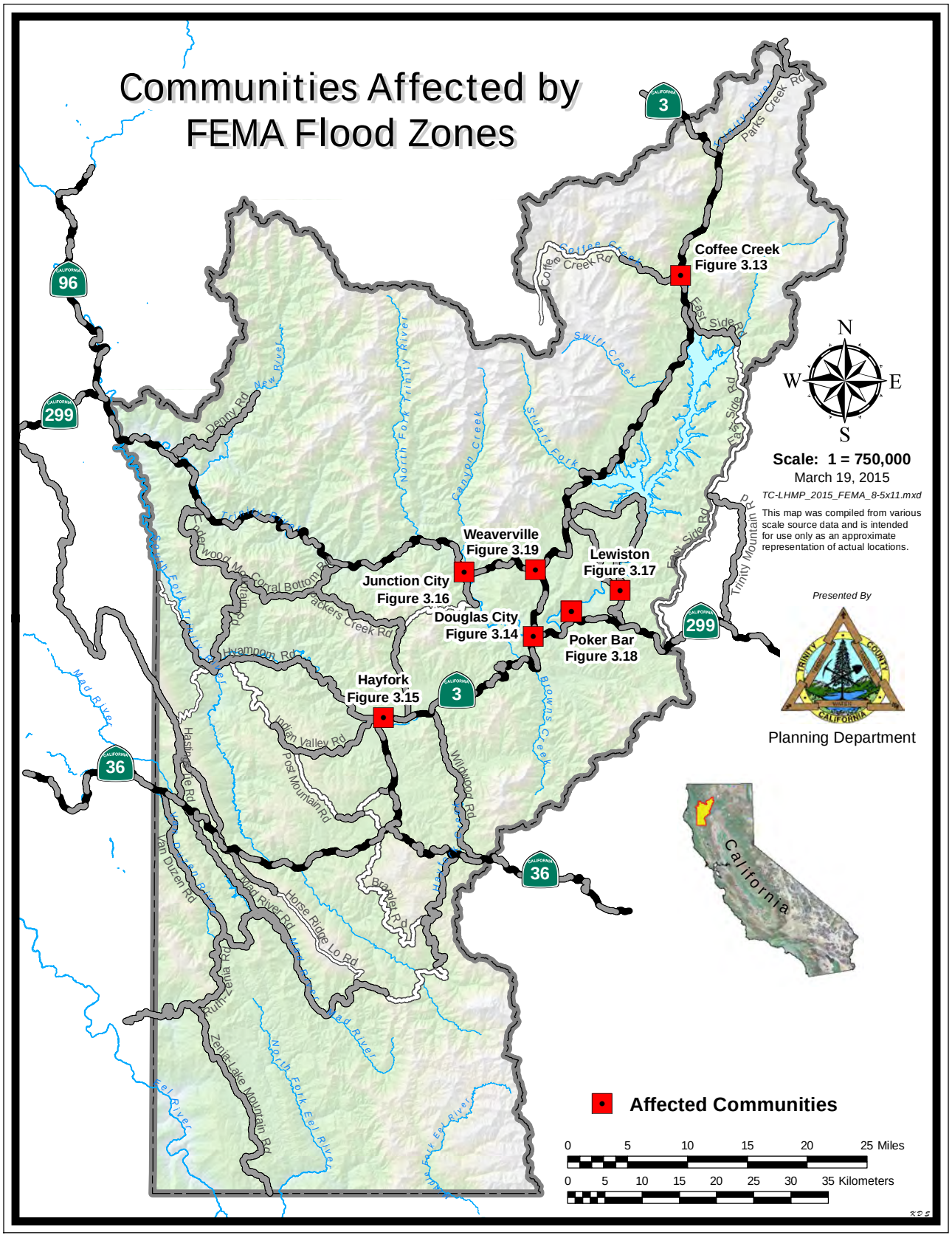

Communities Affected by FEMA Flood Zones
Coffee Creek
Figure 3.13
Weaverville
Figure 3.19
Junction City
Figure 3.16
Douglas City
Figure 3.14
Lewiston
Figure 3.17
Poker Bar
Figure 3.18
Hayfork
Figure 3.15
N
W
E
S
Scale: 1 = 750,000
March 19, 2015
TC-LHMP_2015_FEMA_8-5x11.mxd
This map was compiled from various scale source data and is intended for use only as an approximate representation of actual locations.
Presented By
Planning Department
California
Affected Communities
0 5 10 15 20 25 Miles
0 5 10 15 20 25 30 35 Kilometers

Figure 3.13
FEMA Flood Hazard on Coffee Creek: The school and several residences are in Zone AE. The VFD is in the 500 year floodplain.

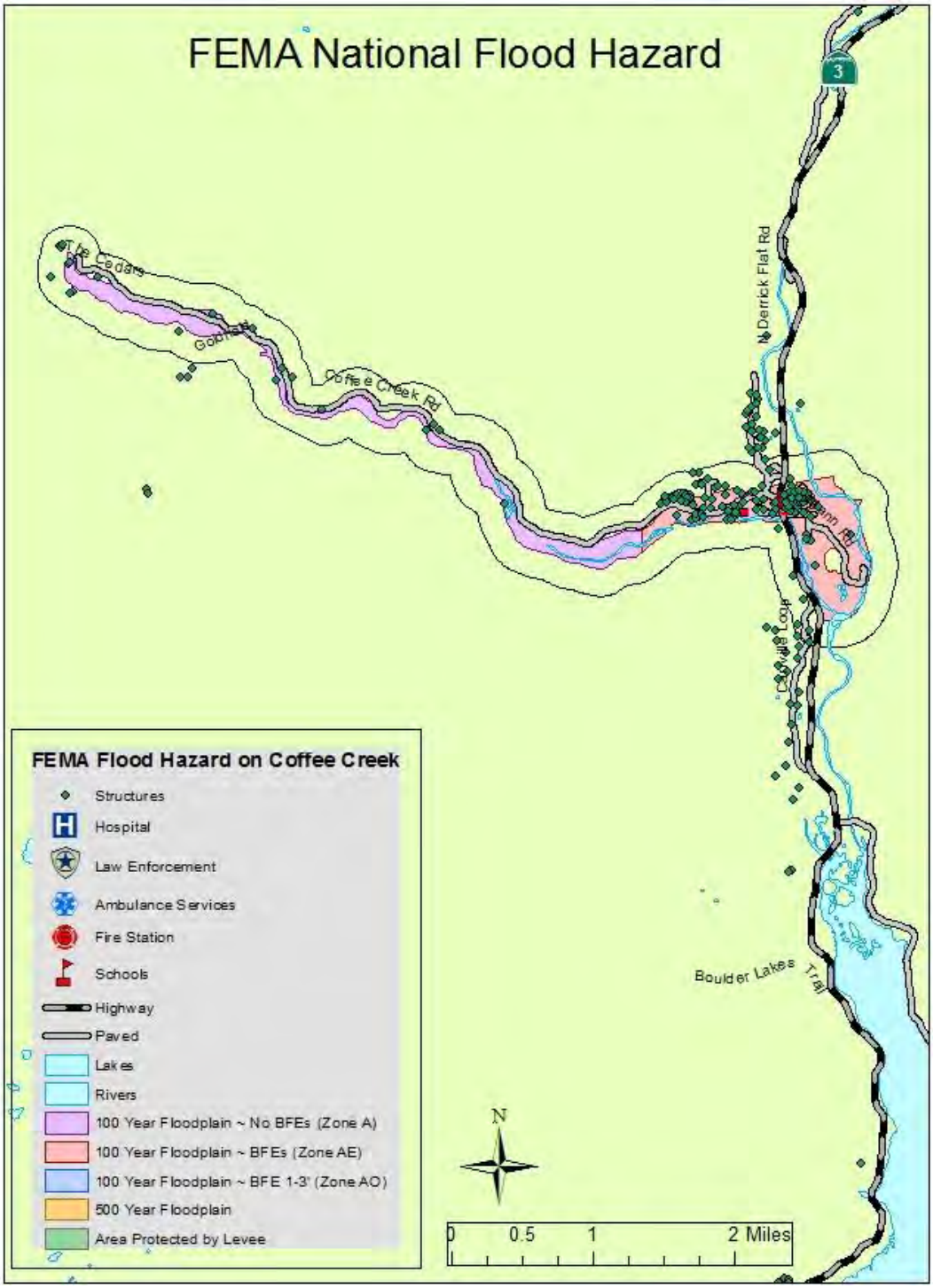


Figure3.14
FEMA Flood Hazard Douglas City Area: A few residences in the Steel Bridge Area are close to the 500 year floodplain; the mobile home park at the confluence of Indian Creek and the Trinity River could be affected if both bodies rose above the 100 year flood stage; the Douglas City School is on high ground and safely out of the 500 year floodplain; and a few structures along Weaver Creek and Hwy 299 touch Zone A.

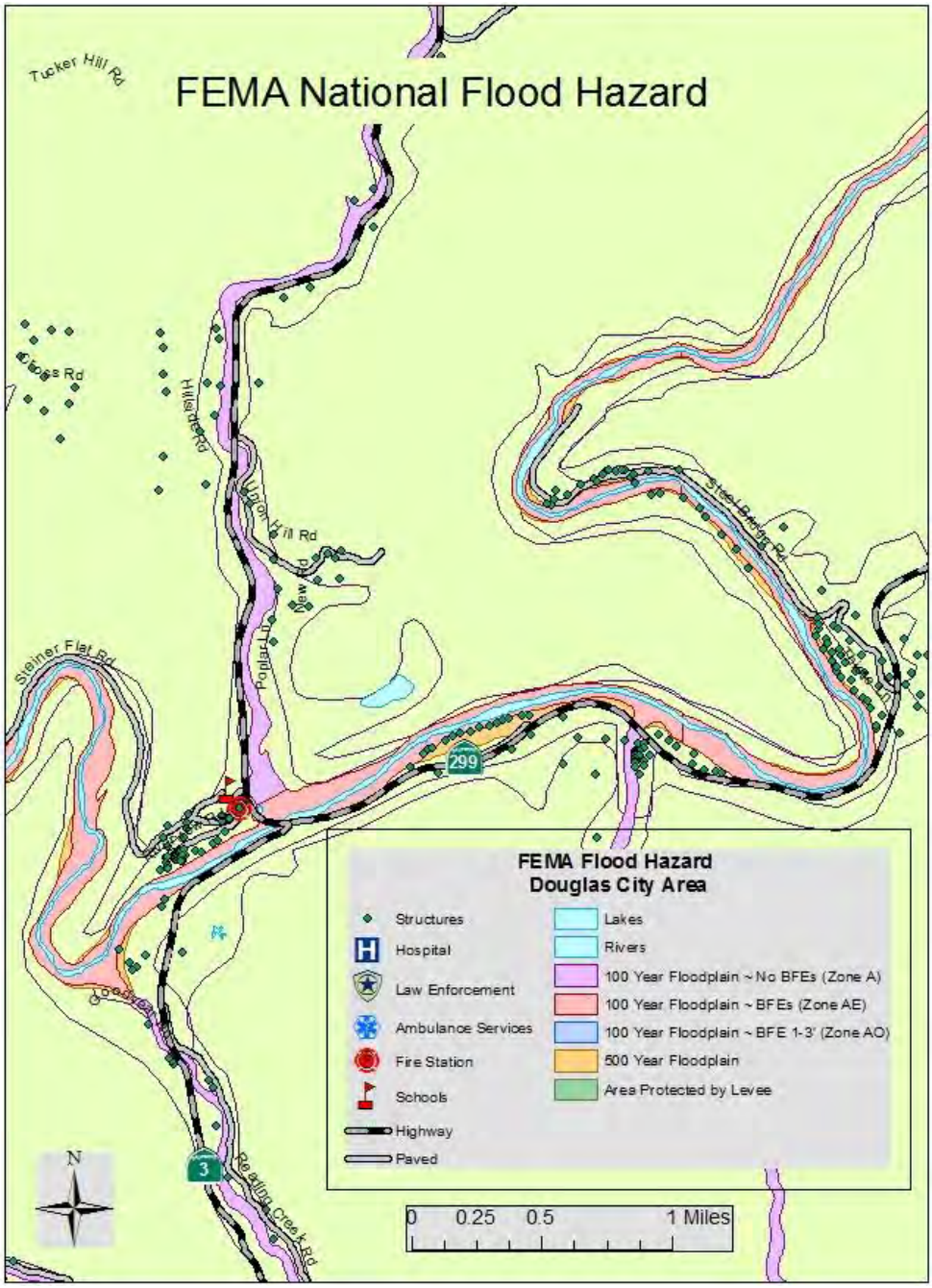


Figure 3.15
FEMA Flood Hazard Hayfork Area: The schools, hospital clinic and fire station are all outside the boundaries of the floodplains. A few scattered residences are in the 100 year floodplain.

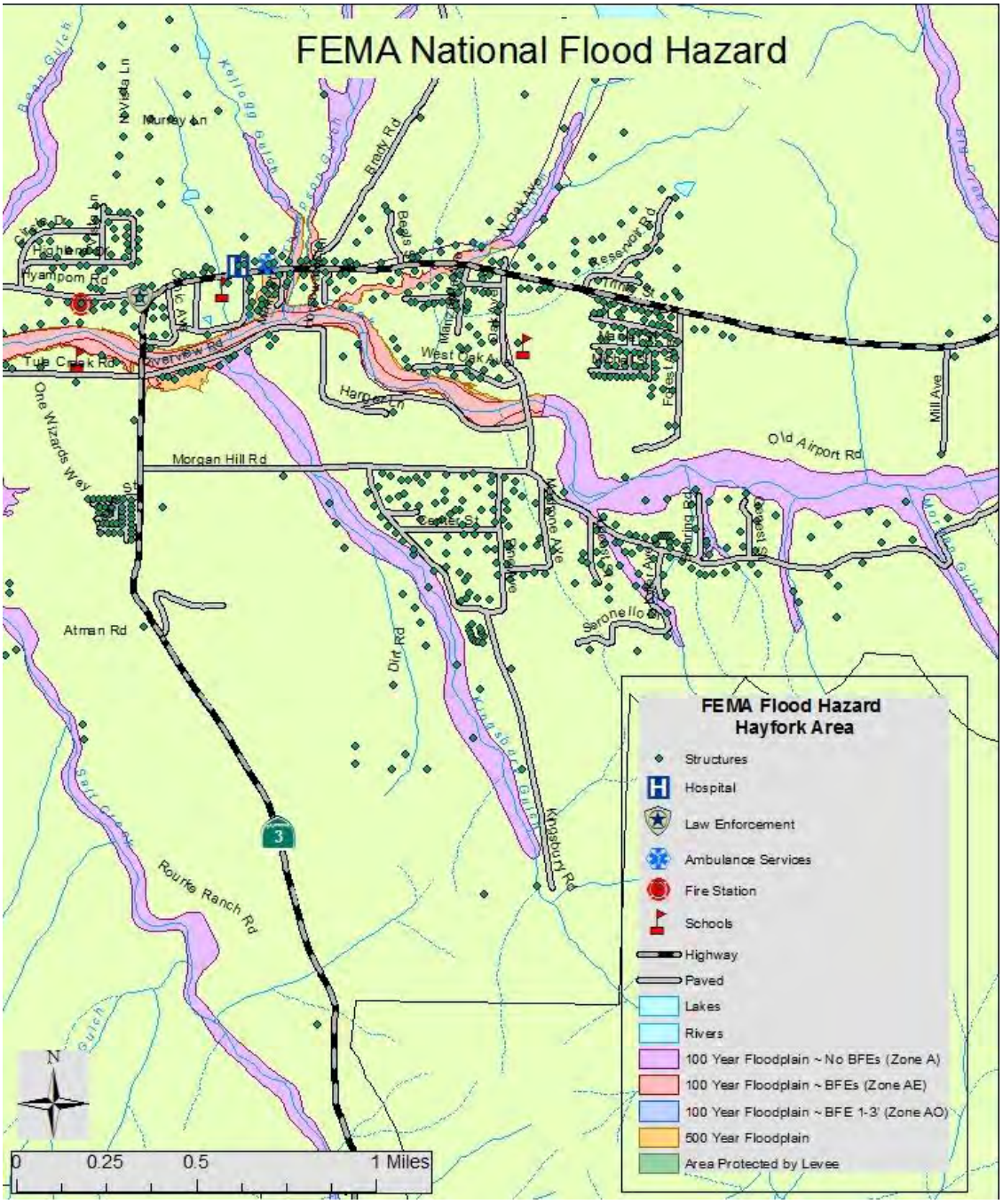


Figure 3.16
FEMA Flood Hazard Junction City Area: The school and fire station are not in the floodplain. There are several vulnerable structures near the confluence of Canyon Creek and the Trinity River. Several structures are in Zone A downstream of Junction City on river left.

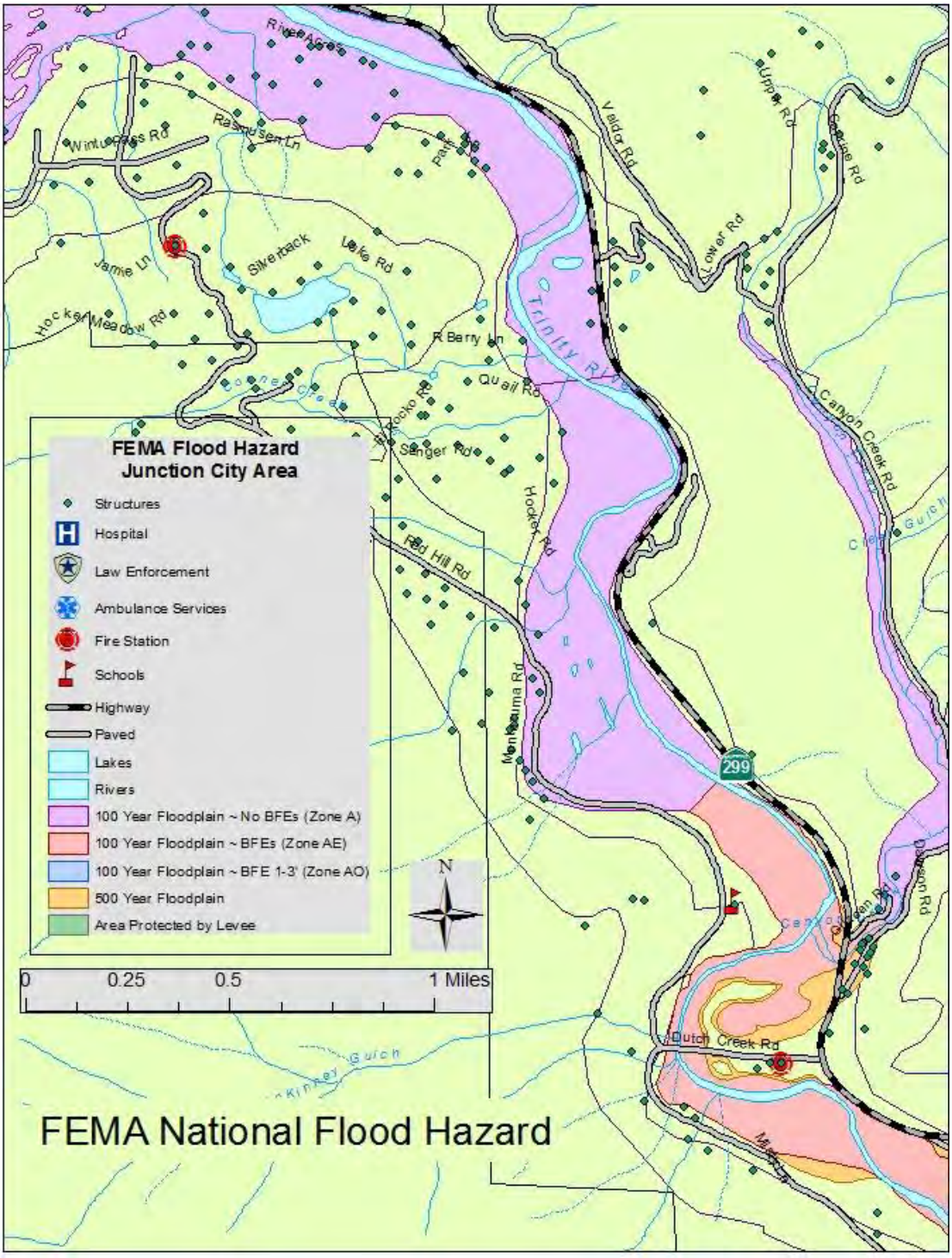


Figure 3.17
FEMA Flood Hazard Lewiston to Rush Creek: The school, fire station and water treatment plant are not in the floodplain. Scattered residences touch on Zones A, AE and the 500 year floodplain. Historic downtown Lewiston is in the 500 year floodplain.

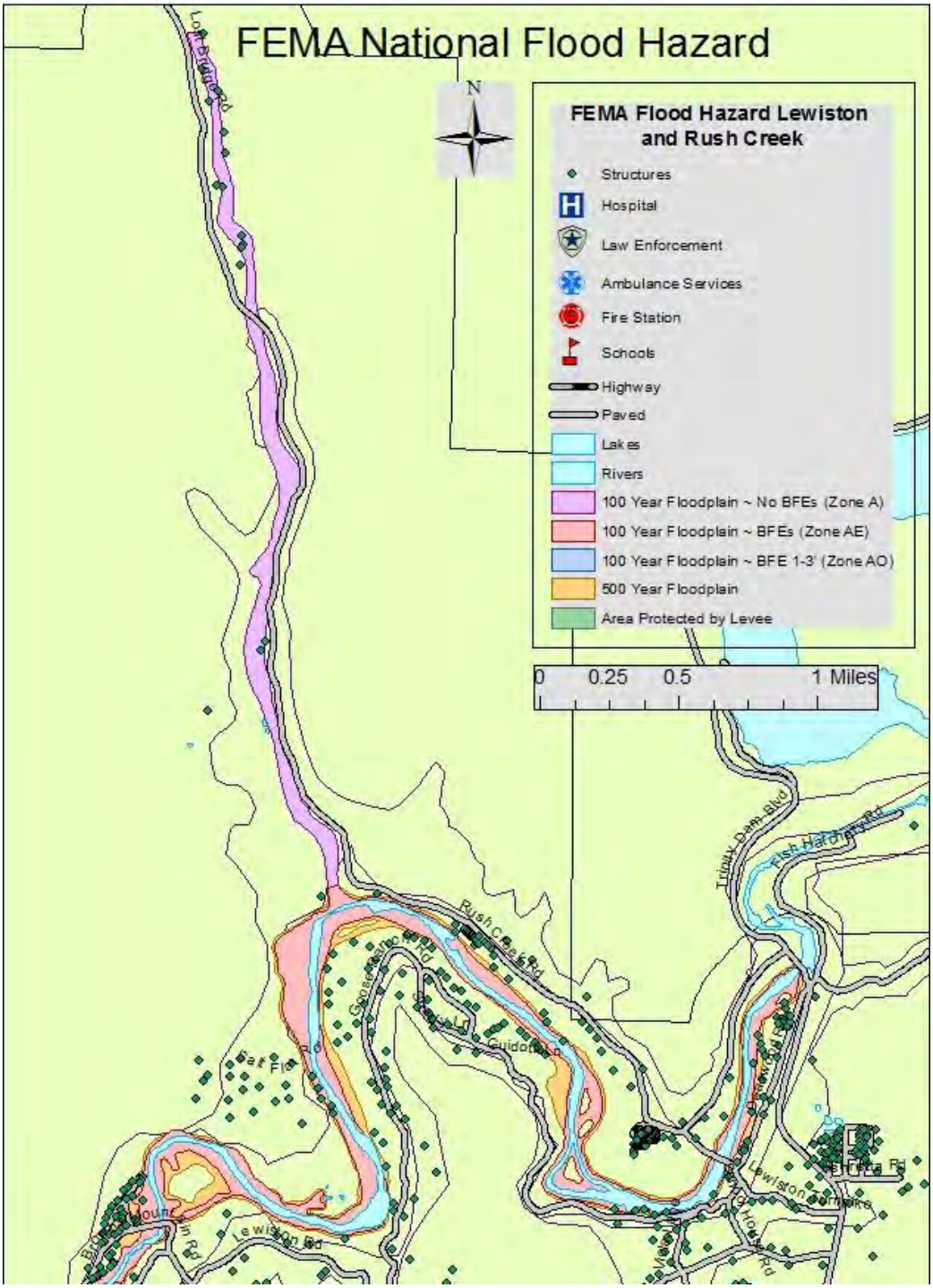


Figure 3.18
FEMA Flood Hazard Poker Bar: The CalFire Fawn Lodge fire station is in the 100 year floodplain (Zone A) on Grass Valley Creek. Several residences are in the 500 year floodplain, with a scattered few in Zone AE.

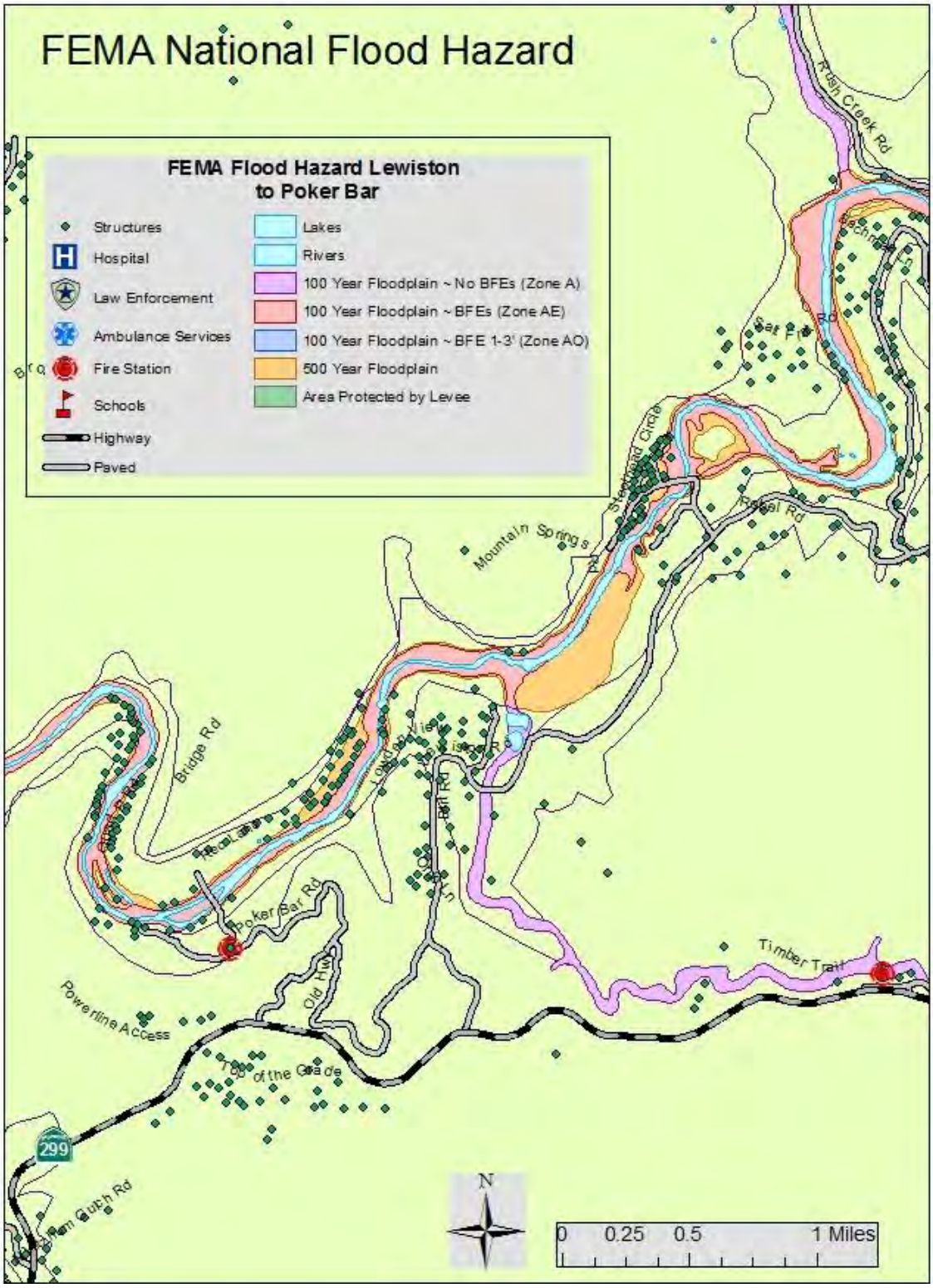
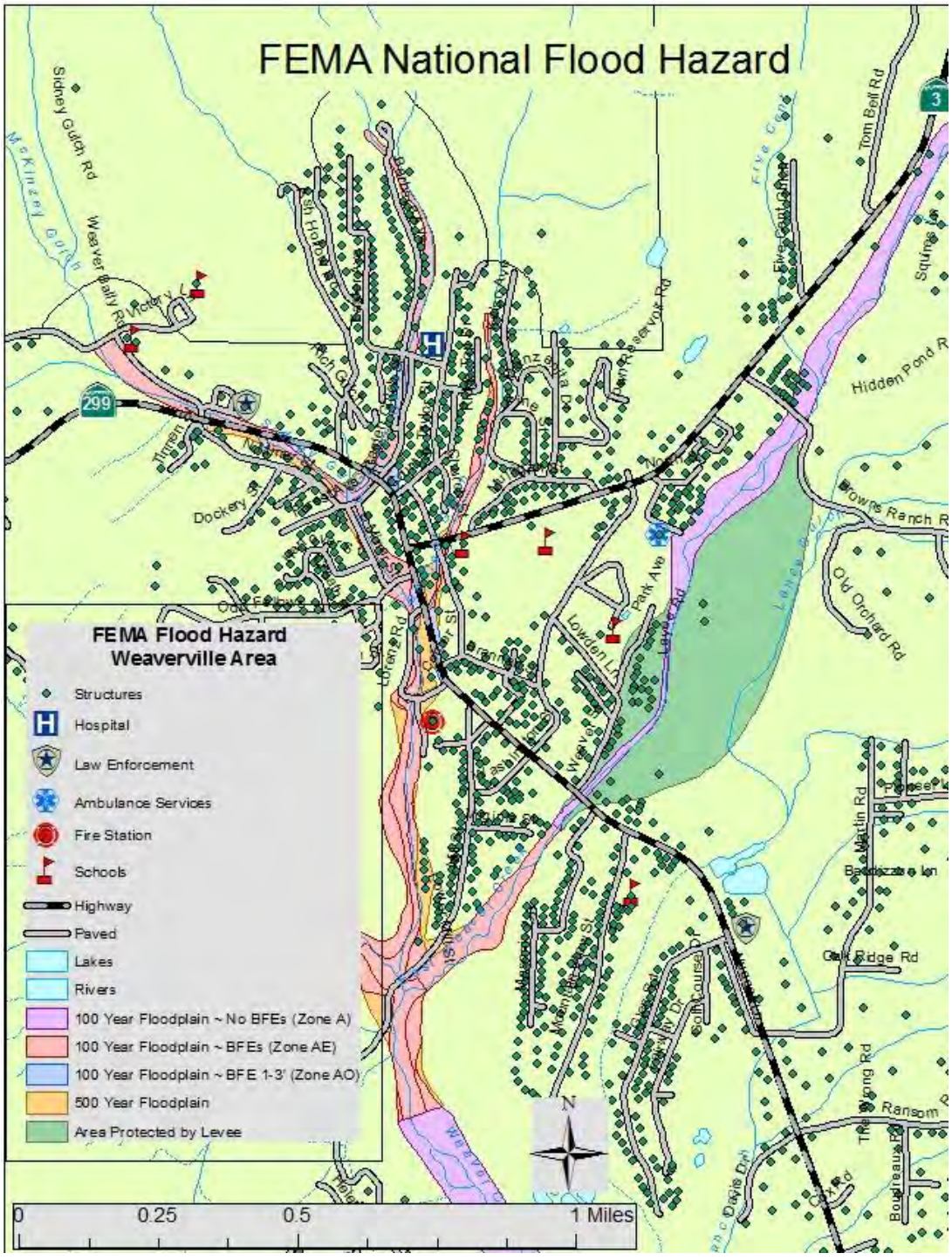


Figure 3.19
FEMA Flood Hazard Weaverville: All schools, fire stations and the County jail are not in floodplains. The hospital is in the Garden Gulch floodplain Zone AE, and the Courthouse in Zone AO. A culvert on Garden Gulch near the hospital can get obstructed during storm events, causing overland sheeting. Highway 299 is in Zone AE where Sidney Gulch crosses it on the west side of town and the Joss House is in the same zone at Oregon St. and Hwy 299. Highway 3 at Ten Cent Gulch is in Zone AE. The post office is in the 500 year floodplain for Sidney Gulch.



Summary of existing critical infrastructure in floodplains is listed in Table 3.23.

Table 3.23

Infrastructure Type	Location	Floodplain / Zone
School	Coffee Creek	AE
Fire station	Coffee Creek	500 year
Airport	Hyampom	n/a
Historic Downtown	Lewiston	500 year
Fire station	CalFire Fawn Lodge	A
Hospital	Weaverville	AE
Courthouse	Weaverville	A0
Hwy 299	Weaverville	AE
Hwy 3	Weaverville	AE
Joss House	Weaverville	AE/AO
Post Office	Weaverville	500 year

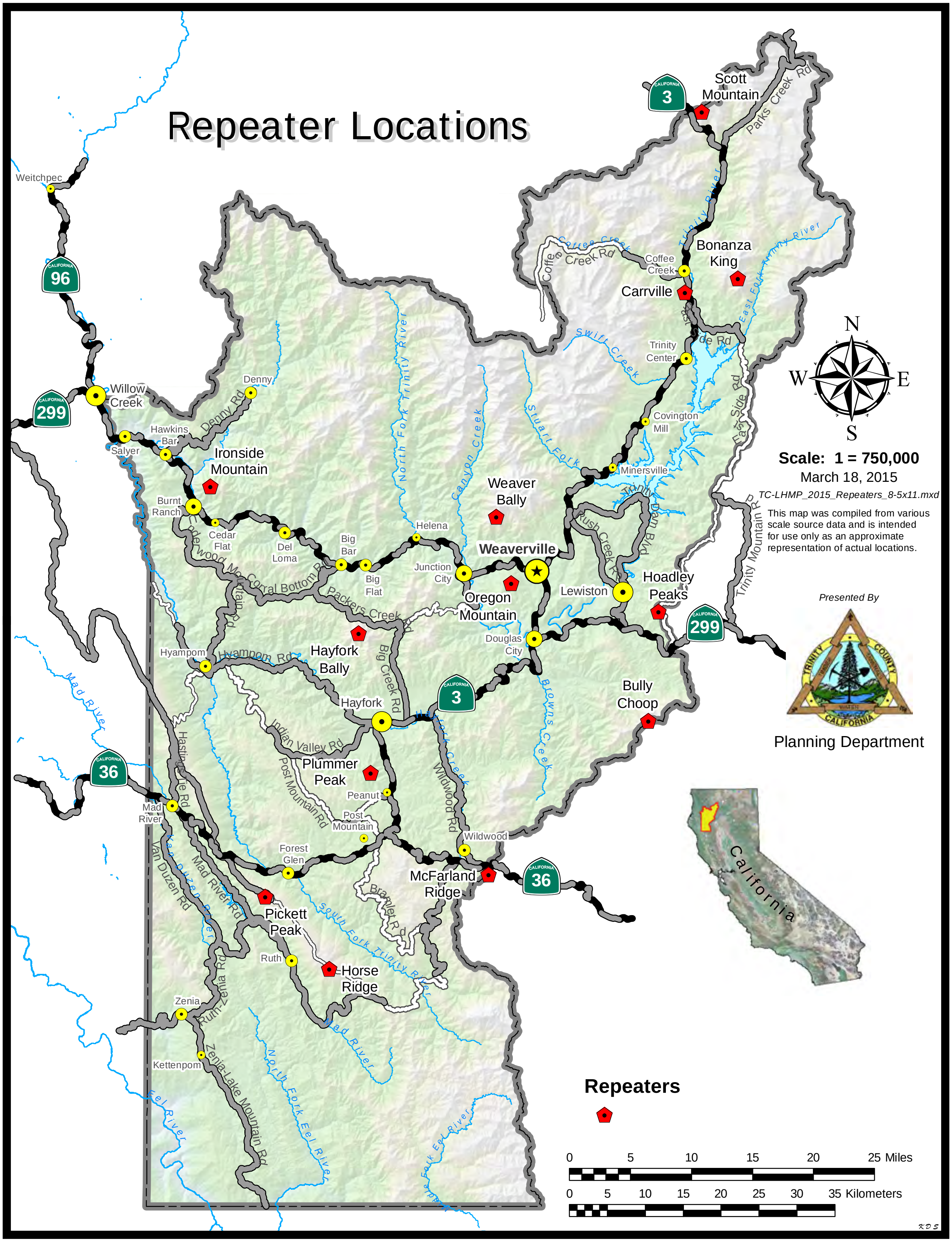
Potential Impact to New Development
The risk of flooding to future development should be minimized by the floodplain management programs of the County, if properly enforced. Risk could be further reduced by strengthening floodplain ordinances and floodplain management programs beyond minimum NFIP requirements, such as adding freeboard to base flood elevation requirements. If the County does pursue strengthening its flood hazard prevention ordinance beyond minimum NFIP requirements, it may consider participating in the Community Rating System to lower flood insurance premiums for policy holders in the County.

Loss of Communications
Planning Significance: High

Potential Impact to Existing Development
Loss of communications will have varied impact to existing developments based on the hazard. The repeater sites listed in Table 3.16 and shown in Figure 3.20 are all vulnerable to wild land fire. Having communications go down during a wildland fire could be devastating to nearby communities. All of the hazards listed in this plan, the Safety Element and addressed in the Emergency Operations Plan could become unmanageable without reliable communications.

Amateur radio operators (ham) have become scarce in the County. Only a handful of private citizen operators are present. As cellular and digital communications have become more ubiquitous, radios have lost the popularity they once enjoyed. The loss of this volunteer segment of the population could increase the impact of any major disaster in the County.

Figure 3.20


Repeater Locations
Scott Mountain
Bonanza King
Carrville
Trinity Center
Covington Mill
Minersville
Weaver Bally
Weaverville
Oregon Mountain
Lewiston
Hoadley Peaks
Douglas City
Junction City
Helena
Big Bar
Big Flat
Del Loma
Cedar Flat
Burnt Ranch
Ironside Mountain
Hawkins Bar
Salyer
Willow Creek
Denny
Weitchpec
Hyampom
Hayfork Bally
Hayfork
Bully Choop
Plummer Peak
Peanut
Post Mountain
Forest Glen
Wildwood
McFarland Ridge
Mad River
Pickett Peak
Ruth
Horse Ridge
Zenia
Kettenpom
N
S
W
E
Scale: 1 = 750,000
March 18, 2015
TC-LHMP_2015_Repeaters_8-5x11.mxd
This map was compiled from various scale source data and is intended for use only as an approximate representation of actual locations.
Presented By
Planning Department
California
Repeaters
0 5 10 15 20 25 Miles
0 5 10 15 20 25 30 35 Kilometers

Potential Impact to New Development
Planning for new development will be influenced by the hazards addressed in this plan and reliable communications will influence the level of risk associated with each hazard.

Severe Weather
Planning Significance: High

Potential Impact to Existing Development
Overall vulnerability to severe weather relative to other hazards is considered high, with high potential impact to residents due to dispersed communities and susceptibility to isolation during severe weather. High winds often accompany severe weather, which can cause downed trees and power lines, power outages, accidents, and road closures.

Severe weather also impacts the local economy by disrupting transportation and commercial activities. Travelers on highways in Trinity County, particularly along remote stretches of road, can become stranded, requiring search and rescue assistance and shelter provisions. Agriculture and livestock are also vulnerable to extreme cold temperatures.

Due to the geographic size of Trinity County, the County does not have the resources to keep ingress and egress routes open during heavy snowstorms to all communities. Some communities only have one way in and out. Heavy rains and flooding can also isolate residents. Transportation networks, communications, and utilities infrastructure are the most vulnerable physical assets in the planning area.

Potential Impact to New Development
Future residential or commercial buildings built to code should be able to withstand snow loads from severe weather. Population growth in the County will increase problems with road, business, and school closures and increase need for snow removal and emergency services related to severe weather events.

Widespread Infectious Disease
Planning Significance: Moderate

Potential Impact to Existing Development
A pandemic in Trinity County would overwhelm existing medical facilities. With nearly a quarter of the population senior citizens (23% over 65) our population is more vulnerable than most. Seventeen percent of the population is under 18.

CDC's pandemic preparedness efforts include ongoing surveillance of human and animal influenza viruses, risk assessments of influenza viruses with pandemic potential, and the development and improvement of preparedness tools that can aid public health practitioners in the event of an influenza pandemic.

Potential Impact to New Development
Widespread infectious disease would not impact new development unless a pandemic swept the County with an unusually high mortality rate.

Wildfire
Planning Significance: High

Potential Impact to Existing Development
Overall vulnerability to wildfire in Trinity County is very high. Certain areas in and surrounding Trinity County are extremely vulnerable to fires as a result of dense vegetation combined with a growing number of structures being built near and within rural lands. The County has recognized this risk and since 1999 has been active in assessing and planning for wildfire, creating a Community Wildfire Protection Plan (CWPP). To summarize, from the 2010 CWPP:

> *The Trinity County Fire Safe Council (FSC) developed the Trinity County Community Wildfire Protection Plan (CWPP) between 1999 and 2005. A series of community meetings and public workshops were held at Volunteer Fire Department Halls and community centers across Trinity County. Residents were asked to help identify and map features relevant to emergency response. Data noted included e.g. locked gates, bridges too weak to carry a fire truck, and water sources. Community members also worked with the team to locate and specify values at risk from fire in and around their communities. The same strategy was used in the 2010 CWPP Update, with 15 community meetings hosted by the Volunteer Fire Departments. Some significant elements have been added to the Update that were not a part of the original planning: an interface with the concurrent Humboldt County CWPP update; development of Wildland Urban Interface boundaries as defined in the Healthy Forest Restoration Act; and attention to treatments associated with large scale fires that have occurred since 1999. These meetings were used to capture information.*

The CWPP and Trinity County Safety Element do not address quantitative losses, which will be covered here. Trinity County's 2014 assessor's data was used as a basis to inventory developed parcels located in high and very high hazard zones. Wildfire hazard zone data was provided by the California Department of Forestry and Fire Protection, Fire and Resource Assessment Program as a GIS layer (Fire Hazard Severity Zones DRAFT, 9-2007, Very High zones in LRA). This data's criteria for the fire severity classifications are conditions such as fuels, terrain, weather, and other relevant factors. GIS was used to select all structures within those zones.

Another assumption with this model is that every parcel with an improved value greater than zero was assumed to be developed in some way. Only improved parcels, and the value of those improvements, were analyzed and aggregated by property type and fire severity zone. The results are show in Table 3.24.

Table 3.24

Parcel Type (as defined by Trinity County Assessor's Office)	**Number of Parcels in High Fire Severity Zone**	**Improvement Values in High Fire Severity Zone**	**Number of Parcels in Very High Fire Severity Zone**	**Improvement Values in Very High Fire Severity Zone**
Residences	1064	$ 110,393,522.00	5616	$ 597,525,963.00
Religious	13	$ 2,786,307.00	14	$ 4,162,769.00
Office	40	$ 5,656,592.00	6	$ 1,272,178.00
Museum	0	0	1	$ 35,914.00
Commercial	109	$ 25,537,153.00	90	$ 13,338,428.00
Club	5	$ 610,553	16	$ 5,252,016.00
Government	28	*	45	*
Volunteer Fire Department	2	*	15	*
Total	**1261**	**$144,984,127.00**	**5803**	**$621,587,268.00**

Based on this analysis, the County has substantial assets at risk to high and very high fire severity. The number of structures (7064) in High and Very High severity fire zones combined represents 91.5% of all structures in the County and represents 91 % of the property value. ($766,571,395.00 combined.)

*All government and VFD buildings are listed in the "Critical Facilities and Infrastructure" Tables 3.15 and 3.16. Using the 91% average of all structures being in High or Very High fire severity zones, vulnerability of government and VFD improvement values would be $172,950,560.

Potential Impact to Future Development

Growth continues to occur in wildland-urban interface areas in the County, increasing the vulnerability of people, property, and infrastructure to wildfires. Policies addressing wildfire mitigation for future development in wildfire hazard areas can be found in the Trinity County Safety Element and Community Wildfire Protection Plan.

Summary of Vulnerability by Hazard

This section (3.3.2) demonstrates the economic impact of each hazard where available, allowing further analysis of the initial category scores, shown below in Table 3.25.

Initial Category Scores

Geographic Location Extent	Probability	Magnitude
Large = 4	Highly Likely = 4	Catastrophic = 4
Medium = 3	Likely = 3	Critical = 3
Small = 2	Occasional = 2	Limited = 2
Isolated = 1	Unlikely = 1	Negligible = 1

Table 3.25

Hazard Description	Geographic Location/ Extent	Probability of Future Occurrences	Magnitude/ Severity	Planning Significance	Score
Wildfire	Large	Highly Likely	Catastrophic	High	12
Severe Weather	Large	Highly Likely	Catastrophic	High	12
Loss of Communications	Large	Highly Likely	Critical	High	11
Drought	Large	Likely	Critical	High	10
Widespread Disease	Medium	Occasional	Catastrophic	Moderate	9
Flood	Medium	Likely	Critical	Moderate	9
Dam Failure	Small	Occasional	Catastrophic	Moderate	8
Earthquake	Isolated	Highly likely/ Likely	Limited	Moderate	6

To include the vulnerability by hazard information in this matrix, each hazard was weighted based on economic impact, social/societal impact, potential for loss of infrastructure, potential impact on future development and previous score from the Trinity County Emergency Operations Plan*. Scores are shown below and the results are in Table 3.26.

**The Trinity County Emergency Operations Plan includes a threat assessment matrix created by members of the Disaster Council, but the quantitative information listed in this plan was not available when the matrix was created.*

Potential Economic Impact		Potential Social/Societal Impact		Potential for Loss of Infrastructure	Potential Impact on Future Development		EOP Matrix Score	
Under $ 1 million =	1	Little to no impact =	1	Little to no loss =1	Little to no impact =	1	150-200 =	1
$1-25 million =	2	Some disruption =	2	Loss of 1-2 critical =2	Some disruption =	2	200-250 =	2
$25- 50 million =	3	Moderate impact =	3	Loss of 3-8 critical =3	Moderate impact =	3	250-300 =	3
$50-100 million =	4	Extended isolation =	4	Loss of 9-12 critical =4	Unable to develop for 2-5 years =	4	300-400 =	4
Over $100 million =	5	Societal breakdown =	5	Over 13 critical infrastructures lost =5	Unable to develop for over 5 years =	5	Over 400 =	5

Table 3.26

Hazard Description	Initial Score	Economic Impact	Social/Societal Impact	Infrastructure Loss	Future development	EOP Matrix	Total
Wildfire	12	5	3	3	4	5	32
Severe Weather	12	2	4	1	2	3	24
Loss of Communications	11	3	3	3	2	4*	26
Drought	10	2	3	1	4	1	21
Widespread Disease**	9	3	5	1	2	1	21
Flood	9	4	4	4	4	3	28
Dam Failure	8	5	4	3	4	2	26
Earthquake	6	4	3	2	3	1	19
Ordered by ranking							
1. Wildfire	12	5	3	3	4	5	32
2. Flood	9	3	4	4	4	3	28
3. Loss of Communications	11	3	3	3	2	4*	26
4. Dam Failure	8	5	4	3	4	2	26
5. Severe Weather	12	2	4	1	2	3	24
6. Drought	10	2	3	1	4	1	21
7. Widespread Disease**	9	3	5	1	2	1	21
8. Earthquake	6	4	3	2	3	1	19

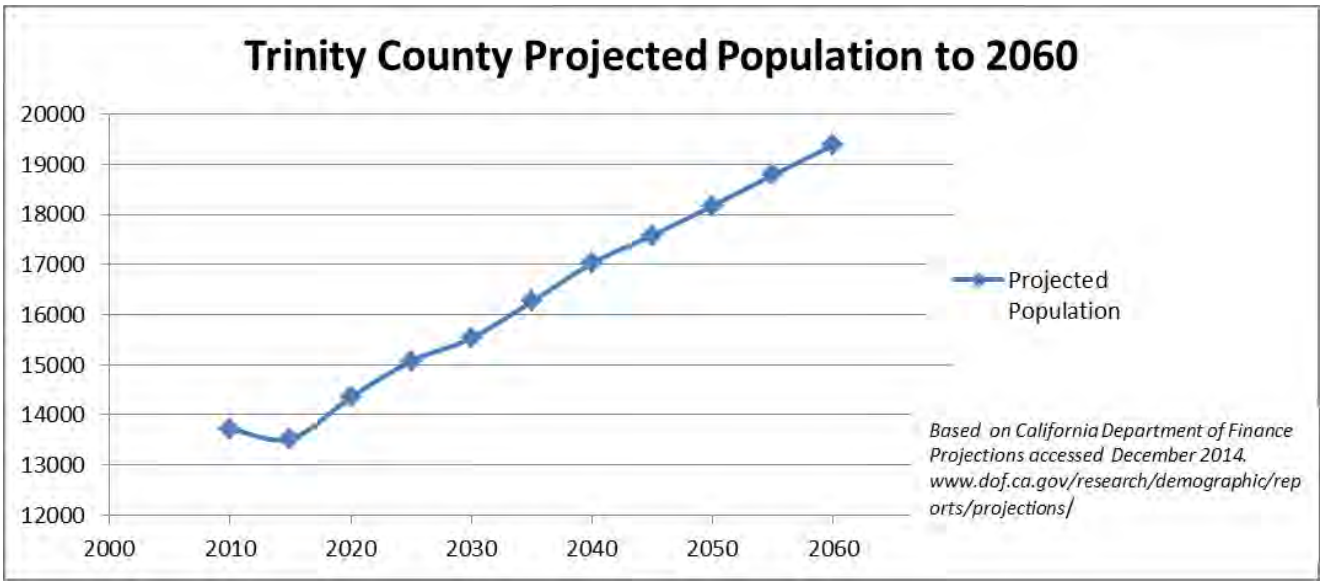
**Loss of communications was not rated in the EOP Matrix, but was assigned a score of 4 as it can increase the impact of all other hazards.*

*** Listed in the EOP Matrix as "Public Health."*

3.3.3 Development and Land Use Trends

Population

Trinity County population growth is predicted to remain small over the next 50 years, raising from just under 14,000 now to just under 20,000 by 2060.



Land Use Trends

According to the Trinity County Housing Element, the trend for new development is single-family residences:

> *"the trend for housing units has been, and continues to be, single-family homes. Multifamily housing construction has historically been sparse in the county. Most home construction is sparked by individuals, seeking single-family homes. Most subdivisions are small, creating four parcels or less. The county has had trouble attracting developers of multifamily units. The rural nature, low incomes and minimal infrastructure are some reasons cited by developers."*

Future Development

Private, developable land in the County is limited, as discussed in chapter two. At this time, there are no plans in place for large scale future developments. One new office building is under construction in Weaverville, slated for completion in spring 2015.

Roadwork on Hwy. 299 between Redding and Buckhorn summit is scheduled to be completed in 2016 with the result being a highway with 17 less curves, a widened road way, and more passing lanes than when the project started. Lewiston, being the Trinity County community closest to Redding, may see more unexpected growth from more people willing to commute between the mountains and valley in order to escape the heat and crowding.

3.4 Capabilities Assessment

The purpose of this section is to identify and assess the regulatory mechanisms currently in place that support the mitigation goals for Trinity County. This assessment of mitigation capabilities, when weighed against the probability of occurrence and severity of hazards in the planning area, creates a fairly accurate picture of overall risk and vulnerability.

The mitigation capabilities assessment is a summary of existing codes, plans, draft reports, etc. to give an overall summary of the current policies with the capacity to be integrated into the natural hazards mitigation strategies. Following this, administrative, technical and financial resources and capabilities are outlined (C1).

3.4.1 Regulatory Capabilities

Table 3.27: Regulatory Tools

Document	Comments
General Plan	Adopted in stages as follows
Land Use Element	1988
Safety Element	2014
Housing Element	2012 – update in process
Circulation Element	2002
Noise Element	2003
Conservation Element	1973
Open Space Element	1973
Specific Plans	
Weaverville	1990
Hayfork	1996
Lewiston	1986
Douglas City	1987
Junction City	1987
County Code	Continually developed over time
Zoning Ordinance	1988
Flood Plain Ordinance	Updated 2000
Subdivision Ordinance	1986

The Trinity County General Plan, including its various Elements and Community Plans, provide guidance to the County in decision making regarding the physical development of the land. The document's intent is to create a vision of the future and assist in providing an outline, or provide a guidance tool for decision makers to insure consistency in their future determinations related to development.

The Plan, consists of the seven Elements noted above (Table 3.27) with much of the document related to the protection and enhancement of the rich natural resources and environment that makes up significant portions of the land uses within the County. More specific to Hazard Mitigation, the Safety Element's primarily focus is on potential hazards such as flooding, fire, hazardous materials, seismic or other geologic activities, as well as airport and military operations. The Housing Element includes policies related to emergency and other temporary housing that citizens may need.

County Codes
The Trinity County Code provides the regulatory and legal framework for local law. The Code is comprised of 19 Titles, including sections dealing with Environmental Protection, Subdivision, Health and Safety, and Building Construction. Overall, the Code provides the administrative framework, guidance and enforcement tools to be utilized in administrating the Code.

Specifically, there are subchapters of the various Titles that address Air Quality (Title 8, Chapter 8.12), Herbicides (Title 8, Chapter 24), Fire Safety (Title 8, Chapter 8.30), Water Quality (Title 8, Chapter 8.60), Building Codes (Title 15, Chapter 15.04), and Flood Plain (Title 15, Chapter 15.16). Some of these provisions are discussed in individual sections below.

Fire Safe Ordinance
In conjunction with the State Public Resources Section 4290, the County has adopted a Fire Safe Ordinance to provide standards for a fire safe development standard. These provisions deal with standards for new development including access, addressing, defensible space, and emergency water supply. These standards are utilized in the entitlement process in cooperation with CalFire and local fire agencies.

Building Code
Title 15 of the Trinity County Code" Building and Construction" provides compliance with The California Code of regulations Title 24 or as it is commonly called The California Building Code. The County adopts this code every four years after approval and adoption of changes by The California Building standards Commission, we adopt the Code as published without any local modifications although we enforce parcel specific roof snow loads based on Chap. 16 sec.1608.2 which requires case studies in Trinity County. In addition to enforcing Chap. 7A of the California Building Code for the Wild Land Urban Interface Area, Trinity County has had in effect our own "Fire safe Ordinance" T.C.O. 1162 since 1992. This Ordinance applies to all new parcels created since its adoption and sets standards for roads, defensible space and water storage for fire protection. California Code also addresses both grading in chap.18 under "soils and Foundations and Flood Plain construction in chap. 16 sec.1612 "Flood Loads". Seismic design requirements in sec.1613 " Earthquake Loads" are enforced to make sure structures will withstand any seismic activity.

Flood Plain Ordinance
Flood Plain development standards are found more specifically within the Zoning Ordinance, however Title 15, Chapter 15.16 provides the administrative framework for utilizing the standards for development in areas of identified flood hazard as recognized by the Federal Emergency Management Agency (FEMA).

Zoning Ordinance
The Zoning Ordinance is developed to implement, via development standards, the various Goals and Policies of the General Plan as it relates to new development. Section 2 of the Ordinance, under the title, Purpose of Adoption of Zoning Plan, states:

A. Said Zoning Plan is adopted to promote and protect the public health, accomplishment thereof is adopted, among other purposes for the following more particularly specified purposes, to-wit:

1. To assist in providing a definite plan of development for the County, and to guide, control and regulate the future growth of the County, in accordance with said plan.
2. To protect the character and the social and economic stability of agricultural, residential, commercial, industrial, and other areas, within the County and to assure the orderly and beneficial development of such areas.
3. To obviate the menace to the public safety resulting from the location of buildings, and the uses thereof, and of land adjacent to highways which are a part of the Streets and Highways Plan of the Master Plan of the County, or which are important thoroughfares, in such manner as to cause interference with existing or prospective traffic movement on said highways.

This ordinance includes provisions for adequate setbacks, parking, development densities, as well as including more specific criteria for flood plain development (See Section 29.4). Guidance procedures for issuing and administrating other entitlements such as use permits and variances are also provided.

Subdivision Ordinance
The County's Subdivision Ordinance provides standards and guidance regarding development standards for the division of land. This includes standards for adequate access, including emergency access. Chapter 16.48 provides for subdivision improvement standards such as requirements for water, waste water, and access. Assurance for the orderly development of land provides for safe circulation and access throughout the County.

Dam Safety Program
Buckhorn, Lewiston and Trinity Dams are maintained by the Bureau of Reclamation. In personal communications from Mark Mooshian, Emergency Management Specialist, Bureau of Reclamation, Mid-Pacific Region, this program was explained:
"The Dam Safety Program continues to be one of Reclamation's highest priorities. The program helps ensure the safety and reliability of Reclamation dams to protect the downstream public. Approximately 50 percent of Reclamation's dams were built between 1900 and 1950, and approximately 90 percent of the dams were built before currently used, state-of-the-art design and construction practices. In addition to regular tabletop and functional exercises and annual updates to Emergency Action Plans, Reclamation continually evaluates dams and monitors performance to ensure that risks do not exceed current Reclamation public protection guidelines. Potential failure modes include seismic risk based on the potential for earthquakes, overtopping due to improved data on hydrologic events, and aging dams, which lack state-of-the-art structural reliability features. These risks place a great reliance on monitoring, examinations, and re-analyses as ongoing risk management activities to assure safe dam performance. A strong Dam Safety Program assures acceptable performance within Reclamation's inventory of dams and related facilities. Reclamation will undertake corrective actions expeditiously when unreasonable public risk is identified. The Program requires dams to be examined by specialists every four years, with additional internal reviews performed annually. Reviews include examination of technical reports, operations and maintenance policy, procedures and practices, as well as rigorous observation and evaluation of the structures, facilities and instrumentation. Reclamation will request Congressional funding to implement corrective actions as they are identified."

The hazards reviewed in section 3.3.3 are summarized below in Table 3.28 with the regulatory mechanisms that support mitigation efforts.

Table 3.28 Regulatory Mechanisms for Hazards

Hazard Description	Planning Significance	Vulnerability Ranking	Regulatory Mechanisms
Wildfire	High	1	General Plan: Land Use, Safety and Housing Elements; Community Wildfire Protection Plan; County Code Fire Safe Ordinance
Flood	Moderate	2	General Plan: Land Use, Safety and Housing Elements; County Code Flood Plain Ordinance
Loss of Communications	High	3	Emergency Operations Plan
Dam Failure	Moderate	4	Emergency Operations Plans for all dams; regularly scheduled maintenance and inspections; BoR Dam Safety Program.
Severe Weather	High	5	Building code addressing snow loads. County Code Flood Plain Ordinance.
Drought	High	6	General Plan: Land Use, Safety and Housing Elements.
Widespread Disease	Moderate	7	Emergency Operations Plan
Earthquake	Moderate	8	General Plan: Land Use, Safety and Housing Elements.

3.4.2 Administrative Capabilities

Table 3.29 Trinity County Administration Capabilities

Personnel Resources	Y/N	Department	Comments
Planner	Y	Planning	1
Engineer Techs	Y	Transportation	3 licensed
Engineer/Infrastructure	N		
GIS Personnel	Y	By Contract	All departments as needed
Full time Building Official	Y	Building	
Floodplain Manager	Y	Building	1- not titled
Emergency Manager	Y	Sherriff - OES	1 part-time
Grant Writer	N		

3.4.3 Technical Capabilities

The technical capabilities for Trinity County include, an Emergency Alert System administered by California Office of Emergency Services (OES), and highway warning signs administered by the Department of Transportation. Due to the remote nature of the County, reverse 911 is not provided by Verizon.

3.4.4 Financial Capabilities

Table 3.30 Trinity County Fiscal Resources

Fiscal Resources	Y/N	Department	Comments
Community Development Block Grant – Disaster Recovery	-	Planning	Available by application as needed.
Capital Improvements Funding	N		
Fees – Water, electric, sewer	N		
Impact fees – new development	Y	Planning	
Incur Debt through General Bonds	N		

3.5 Risk Assessment Summary

After review of the hazards facing the County, the Steering Committee agreed to rely on the actions set forth in the Safety Element and Emergency Operations Plan for HazMat and Landslide hazards.

In the public survey, Hazardous Material Release received a weighted average rank of 2.12, where a rank of 2 equates to a low threat (on a scale of 1(no threat) to 4 (high threat)). The research in Section 3.2 proved that there are hazardous materials spilled in the County on a regular basis, most of which are petroleum related products. The Safety Element addresses Hazardous Materials Goals, Objectives and Policies in Section S.3.

Landslides received a higher ranking of weighted average 2.73, and 9 of 79 respondents to the public survey listed landslides as the worst hazard they had experienced. While they can be devastating on a personal level, after researching the past occurrences, severity and geographic extent, research proved that the goals, objectives and policies stated in the Safety Element (S.4 Seismic Safety Goal) are sufficient to address this hazard and no further mitigation strategy was necessary in this plan.

Below is a list of the hazards by the final ranking as summarized in Table 3.26.

1. Wildfire Summary

Public perception coincided with research, with members of the public who participated in the survey ranking wildfire as the hazard with the highest threat to their safety, with a weighted average of 3.89 out of 4. It was also mentioned as the worst hazard that they had experienced (53 out of 79 respondents).

In the first half of the 20th century, the largest recorded fire in Trinity County was just under 15,000 acres and it wasn't until 1999 that a wildfire fully within the County topped 50,000 acres.

The size and number of wildfires over 1,000 acres in the County have steadily increased over the last 40 years.

The County currently addresses this hazard through a multi-pronged approach including planning ordinances, the Safety Element of the General Plan, the Community Wildfire Protection Plan, and cooperative work among several different councils, groups, and committees.

2. Flood Summary

Members of the public who participated in the survey gave flood a threat rating of 2.76, nearly a full point below drought, placing it as a sub-moderate threat. The County is in the midst of a multi-year drought, which probably explains the lower threat perception of flood hazard by the public. However, flood was listed by 5 of 79 respondents as the worst hazard they had experienced. Major road closures, a result of flooding (among other hazards) ranked as third in the public survey with a weighted average score of 3.27.

Damaging floods have occurred 20 times in the last 52 years and have the potential to cause severe damage to critical infrastructure, roads, bridges and personal property.

Damage from the historic flood of 1964 caused $38 million in damage, adjusted for inflation.

Trinity County joined the NFIP through regular entry on 08/16/1988 and there is no record of repetitive loss in Trinity County.

Climate change could exacerbate flood hazards.

The only hospital in the County is in an AE flood zone.

Flooding has the potential to close Hwy 299 in Weaverville and near Douglas City; and Hwy 3 north in Coffee Creek and Hwy 3 south in Hayfork.

3. Loss of Communications Summary
Members of the public who participated in the survey gave loss of communications a threat rating of moderate with a weighted average of 3.00, placing it in fifth place in the survey below wildfire, drought, major road closures and household fire.

The geography of the County makes this hazard a major concern, as there are problems with line-of-sight delivery of communications over the airwaves. Work-arounds are being used currently to address these issues.

Repeater sites are prone to wildfire.

Amateur “ham” radios are not available in County vehicles, but the Trinity County Amateur Radio Club does have operators and a mobile equipment trailer.

Any of the other listed hazards in this plan could be intensified if communications were to be interrupted during a major event.

4. Dam Failure Summary
Members of the public who participated in the survey, listed dam failure between no threat and low threat, with a weighted average ranking of 1.87.

While major dam failure has not happened in the County, dam failure could be devastating on both the social and economic scales, with potential damage reaching over $225 million.

The Jones Ranch Dam near Burnt Ranch is within 10 miles of the largest earthquake recorded in the County.

Emergency plans for all dams in the County are maintained at the Office of Emergency Services.

5. Severe Weather Summary
Members of the public who participated in the survey, ranked severe weather with a weighted average of 2.80, placing it as a little less than moderate. However in the open-ended question asking which was the worst hazard they had personally experienced, severe weather was mentioned as a distant second (15 out of 79) to wildfire.

Severe weather has caused both injuries and death and is almost certain to happen in the future, with 76 occurrences in the last 53 years. Climate change could increase the severity of storms.

Isolation and power outages caused by severe weather could increase the impact of this hazard.

Transportation networks, communications, and utilities infrastructure are the most vulnerable physical assets in the planning area. Major road closures, a serious concern among the public, can result from severe weather.

6. Drought Summary
Members of the public who participated in the survey, listed drought as the second highest threat with a weighted average of 3.70. The County is in the midst of a drought and residents are concerned.

The placement of drought in 6th place in this plan can be attributed to the fact that drought does not impact the built environment and it received a low ranking in the EOP matrix, which was completed before the drought began.

When precipitation levels return to normal, drought conditions will likely continue due to socioeconomic and agricultural impacts.

7. Widespread Disease Summary
Members of the public who participated in the survey, ranked widespread disease as a low threat with a weighted average of 2.25. This low ranking could be a result of a lack of public knowledge regarding this threat.

While the County has not experienced a pandemic, if one were to occur it would overwhelm the existing medical facilities.

8. Earthquake Summary
Earthquakes received a weighted average threat ranking of 2.65 by the public, almost half way between a low and moderate threat.

Trinity County has experienced hundreds of small earthquakes over the last 50 years, but only eight have been over 4.0 on the Richter scale.

All of the eight earthquakes over 4.0 were located in the western/southwestern portions of the County.

If a large, destructive earthquake were to occur near the epicenter of the largest one recorded in the County (5.4), hundreds of structures would be at risk with potential losses near $50 million.

Chapter 4: Mitigation Strategy

ELEMENT C: Mitigation Strategy
Requirement
C1. §**44 CFR Requirement 201.6(c)(3): The plan shall include a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.**

This section presents the mitigation strategy developed by the Hazard Mitigation Planning Steering Committee (SC), with input from the public and based on the risk assessments presented in Chapter 3. The mitigation strategy was developed through a collaborative group process and consists of goals, objectives, and policies.

Note that in the Trinity County Emergency Operations Plan (EOP), Section 3 – *Concept of Operations* – the County has acknowledged the major role played by residents of the County in mitigating disasters:

> *"An important characteristic of emergencies in Trinity County is that individuals, families, and communities may become isolated and must depend largely or entirely upon themselves and neighbors in the early stages of an emergency. All preparedness must rest upon readiness of individuals and communities to wait out the initial isolation and take appropriate early steps to provide for their own basic needs. "*

This acknowledgement runs through every mitigation plan for all disasters that may happen in the County.

The County EOP also acknowledges the importance of coordination between the OES and other groups (Section 4, Chapter 7). Here is a summary of the groups currently coordinating with the County OES (full description of each group can be found in the EOP):

- Health Planning Partners
- Trinity County Disaster Council
- Trinity County Emergency Medical Care Committee
- Trinity County Fire Chiefs' Association
- Trinity Fire Safe Council
- Inland Region OES/FBI Counter Terrorism Preparedness Group
- Region III Disaster Medical and Health Group
- Region III Mutual Air Regional Advisory Committee
- Region III Operational Area Fire and Rescue Coordinators
- Shasta Cascade Hazardous Materials Response Team
- Emergency Alert System
- National Weather Service
- American Red Cross

4.1 Goals and Objectives

ELEMENT C: Mitigation Strategy
Requirement
C2. §**44 CFR Requirement 201.6(c)(3)(ii): The plan ...must also address the jurisdiction's participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.**

Trinity County places an emphasis on continued compliance with NFIP. Trinity County has participated in the regular phase of NFIP since 1988. Since then, the County has administered floodplain management regulations that meet the minimum requirements of the NFIP. Specific activities that the County will undertake to ensure continued compliance include the following:

- Work with FEMA and the State in the map modernizations program and adopt new DFIRMs when effective
- Evaluate the current status of the County's floodplain management program and identify areas for improvement
- Evaluate participation in the Community Rating System and identify opportunities to obtain points, such as through this planning process
- Evaluate the DWR flood awareness maps for the planning area and identify floodplain management activities to best manage existing and future development in flood-prone areas

ELEMENT C: Mitigation Strategy
Requirement
C3. §**44 CFR Requirement 201.6(c)(3)(i): The plan shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.**

Using goals, objectives and policies, the Steering Committee voted on the hazards that pose the greatest threat to the County – Appendix D shows all of the items and the ranking they received by number of votes.

Goals are general guidelines that explain what you want to achieve. Goals are defined before considering how to accomplish them so that they are not dependent on the means of achievement. They are usually long-term, broad, policy-type statements.
Objectives define strategies or implementation steps to attain the identified goals and are specific and measurable.
Policies are specific actions that help achieve goals and objectives.

The recently adopted (November 2014) Safety Element of the Trinity County General Plan used the term "Policies" rather than "Actions" and this plan will use the two terms interchangeably.

The SC developed goals and objectives to provide direction for reducing hazard-related losses in Trinity County. These were based upon the results of the risk assessment and a review of goals and objectives from other state and local plans, specifically, the California State Multi-Hazard Mitigation Plan, 2010; the Trinity County General Plan, with emphasis on the newly adopted Safety Element, 2014; the Trinity

County Community Wildfire Protection Plan, 2010; and the Trinity County Emergency Operations Plan 2012. This review was to ensure that this plan's mitigation strategy was integrated with existing plans and policies.

Through a brainstorming process at their second meeting, the Steering Committee identified a variety of possible goals and then came to a consensus on four main ones. Following the development of goals, the Steering Committee identified specific objectives to achieve each goal. They were designed to be broad in range so as to include not only the top priority hazards, but also the ones that received fewer votes. Goals and objectives are listed below, but are not prioritized:

Goal 1: Significantly reduce injuries and loss of life.

Goal 1 Objectives:

1.1 Strengthen early notification and warning systems.

1.2 Strengthen communications systems and address gaps.

1.3 Ensure there are safe places for people to stay and/or necessary supplies during an event.

1.4 Revise land development regulations, if needed.

1.5 Advance community resilience through preparation, adoption, and implementation of state, regional, and local hazard mitigation plans and projects.

Goal 2: Minimize damage to structures and property, as well as disruption of essential services and human activities.

Goal 2 Objectives:

2.1 Implement projects to protect critical and necessary assets in hazard risk areas.

2.2 Establish and maintain partnerships among all levels of government, private sector, and non-profit organizations that improve and implement methods to protect life and property.

2.3 Protect essential infrastructure.

Goal 3: Protect the environment.

Goal 3 Objectives:

3.1 Encourage hazard mitigation measures that promote and enhance natural processes and minimize adverse impacts on the ecosystem.

3.2 Implement wildfire mitigation and watershed protection strategies as identified in the Community Wildfire Protection Plan (CWPP).

Goal 4: Promote hazard mitigation as an integrated public policy and as a standard business practice.

Goal 4 Objectives:

4.1 Continually build linkages among hazard mitigation, disaster preparedness and recovery programs.

4.2 Use mandatory local general plan, zoning and subdivision requirements to help establish resilient and sustainable communities.

4.3 Promote and enhance outreach and education efforts by all agencies with hazard mitigation plans and programs to encourage engagement of stakeholder groups.

4.4 Coordinate efforts to consider climate change impacts in planning decisions.

4.2 Identification and Analysis of Mitigation Actions

ELEMENT C: Mitigation Strategy
Requirement
C4. §**44 CFR Requirement 201.6(c)(3)(ii): The mitigation strategy shall include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.**

To identify and analyze potential mitigation actions to achieve the mitigation goals, the Steering Committee (SC) discussed the key issues that emerged in the Risk Assessment Summary in Table 3.26. Of the eight ranked hazards, four have already had actions assigned to them through the Safety Element of the General Plan – wildfire, flood, dam failure and earthquake (in order of concern).

To identify and analyze potential mitigation actions to achieve mitigation goals for the remaining four hazards, (loss of communications, severe weather, drought, and widespread disease), the steering committee was provided with a packet of materials at its January 2015 meeting on types of mitigation actions, key issues from Chapter 3 Risk Assessment, and a worksheet of the plan's goals and objectives.

The group discussed actions for each hazard as they reviewed the list of categories of mitigation actions which originated from the National Flood Insurance Program's Community Rating System and the FEMA document "Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards, January 2013", as well as definitions and examples for each category. Following is the information the SC received:

Local Planning and Regulations: *This category includes prevention through administrative or regulatory actions or processes that influence the way land and buildings are developed and built; planning and analyzing data and identifying factors that affect the severity of the hazard; developing emergency plans; and monitoring for hazards, if applicable.*

Example: *For drought actions might include assessing community water sources, monitoring water supply, developing triggers for drought-related actions and developing secondary water sources.*

Structure and Infrastructure Projects: *This category includes property protection through actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them from the hazard area; and actions that involve the construction of structures to reduce the impact of a hazard.*

Example: *For drought actions might include developing new or upgrading existing water systems.*

Natural resource protection*: Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems.*

Example: *For drought actions might include incorporating drought tolerant practices into landscape ordinances.*

Emergency services*: Actions that protect people and property during and immediately after a disaster or hazard event.*

Example: *For drought actions might include importing bottled drinking water.*

Public education and awareness*: Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them.*

Example: *For drought actions might include encouraging citizens to take water saving measures; educating public and farmers on water conservation practices.*

Next, the SC discussed the key issues for each priority hazard that emerged from the Risk Assessment. A worksheet with the plan's previously identified goals and objectives was given to all members present and they were asked to identify at least three mitigation actions that would work toward achieving the mitigation goals, for all eight of the priority hazards. A separate meeting with health professionals in the County was organized to create mitigation actions for widespread disease. Based on this work the SC came up with possible mitigation actions, organized by the Goals and Objectives, and ranked the hazards and actions as shown below. (Again – the Goals are merely numbered and not prioritized.)

Note – the term "(SE)" indicates that these actions were listed in the County Safety Element.

Goal 1: Significantly reduce injuries and loss of life.

Goal 1 Objectives:

1.1 Strengthen early notification and warning systems.

1.2 Strengthen communications systems and address gaps.

1.3 Ensure there are safe places for people to stay and/or necessary supplies during an event.

1.4 Revise land development regulations, if needed.

1.5 Advance community resilience through preparation, adoption, and implementation of state, regional, and local hazard mitigation plans and projects.

Hazard and Actions for Goal 1	Number of votes
1A.Wildfire - Develop and maintain a Local Hazard Mitigation Plan(s) for all of Trinity County's Communities at Risk that includes, but is not limited to: Identify and publicize, for each community, potential safety zones, evacuation routes and potential emergency shelter locations. Evacuation routes and safety zone location shall be kept at the Office of Emergency Services, which is responsible for the evacuation process. (SE)	4
1B. Wildfire - Encourage the establishment of a water source identification system (signage and mapping). (SE)	1
1C. Widespread Disease – Identify develop and secure funding to strengthen early warning systems by consistent surveillance, testing, diagnosis and reporting of suspected and confirmed infectious disease to the Trinity County Public Health Department by medical providers on a local and regional basis.	1
1D. Widespread Disease – Promote vaccination through public education and outreach.	0
1E. Multi-Hazard – Explore the feasibility of early notification systems including reverse 911 and a 211 system, which allows residents to call in to one central location for recorded disaster updates and information.	2
1F. Loss of Communications – Explore, develop, and implement access to redundant communications such as "COW" repeaters, amateur radio systems, land lines, cell boosters, "Code Red" web service and any other methods available not only for first responders and agencies involved in disaster response, but also for county residents.	5
1G. Wildfire/Multi-hazard - Identify develop and secure funding to explore and create: a centralized GIS mapping of water sources for firefighting, structure location, bridges, and all County infrastructure and services necessary for emergency response; ground-truthing and updating such a system; and communications between local and visiting resources regarding the system.	6

Goal 2: Minimize damage to structures and property, as well as disruption of essential services and human activities.

Goal 2 Objectives:

2.1 Implement projects to protect critical and necessary assets in hazard risk areas.

2.2 Establish and maintain partnerships among all levels of government, private sector, and non-profit organizations that improve and implement methods to protect life and property.

2.3 Protect essential infrastructure.

Hazard and Actions for Goal 2	Number of Votes
2A. Wildfire - Participate in the Trinity County Fire Safe Council and Trinity County Fire Chief's Association to educate the public on the importance of establishing and maintaining defensible space as a part of a cohesive wildfire management strategy for Trinity County. (SE)	2
2B. Flood – Explore, identify, develop and secure funding to address Trinity Hospital flooding from Garden Gulch culvert overflow. Specific to Safety Element: Work with local, state and federal agencies to implement site-specific flood hazard planning, forecasting, and flood mitigation measures.	1
2C. Dam Failure - The County shall continue to work with FEMA, and other agencies of interest, on maintaining the accreditation of the levee system in Weaverville to the extent practical. (SE)	0
2D. Widespread Disease – Develop and implement Continuity of Operations plans for all partners – private, governmental and non-profit.	0
2E. Widespread Disease – Identify, develop and secure funding to acquire resource caches of equipment and supplies necessary for essential services during pandemics.	0
2F. Multi-hazard – Identify, develop and secure funding to bring existing repeater sites up to current standards, including, but not limited to, weather-proofing, security fencing, cameras, and design specifications.	8
2G. Severe Weather – Explore, identify, develop and secure funding for acquisition of snow removal equipment.	0

Goal 3: Protect the environment.

Goal 3 Objectives:

3.1 Encourage hazard mitigation measures that promote and enhance natural processes and minimize adverse impacts on the ecosystem.

3.2 Implement wildfire mitigation and watershed protection strategies as identified in the Community Wildfire Protection Plan (CWPP).

Hazard and Action	Number of Votes
3A. Wildfire – Encourage owners of existing public and private roads to provide identification signage for emergency access purposes. (SE)	1
3B. Wildfire - Collaborate with the Trinity County Fire Safe Council to identify, develop, and secure funding to implement the CWPP for neighborhood fire/fuel reductions programs and landscape-scale fuels treatments. (SE)	4
3C. Multi-hazard (Wildfire/Drought/Climate change/Flood) – Improve watershed and forest health through actions to reduce illegal water diversions, fire hazards, and unsustainable agricultural practices.	5

Goal 4: Promote hazard mitigation as an integrated public policy and as a standard business practice.

Goal 4 Objectives:

4.1 Continually build linkages among hazard mitigation, disaster preparedness and recovery programs.

4.2 Use mandatory local general plan, zoning and subdivision requirements to help establish resilient and sustainable communities.

4.3 Promote and enhance outreach and education efforts by all agencies with hazard mitigation plans and programs to encourage engagement of stakeholder groups.

4.4 Coordinate efforts to consider climate change impacts in planning decisions.

Hazard and Action	Number of Votes
4A. Earthquake/Dam Failure/Multi-hazard – Identify, develop and secure funding to educate residents on hazards specific to the areas where they reside (earthquake; dam failure; flooding; drought) as well as emergency preparedness and the need for self-reliance in general.	3
4B. Dam Failure - Discourage high-density development in areas that lay within the area of inundation for any of the dams: Lewiston, Buckhorn, Trinity, Matthews, Ewing and Jones Ranch.(SE)	0
4C. Widespread Disease - Incorporate existing and future public health plans into County-wide emergency, safety and mitigation plans through collaboration with all County agencies.	1
4D. Widespread Disease – Increase the County's ability to react quickly to a health crisis through multi-agency and general public trainings, workshops, exercises, and education.	0
4E. Widespread Disease – Develop a Public Health Policy establishing when schools should be closed due to a health hazard.	0
4F. Loss of Communications/Multi-hazard – The County shall develop a new wireless communication ordinance which would require discretionary permitting for new communication towers, as well as significant alterations of existing facilities. Consideration of provision for emergency service	1
4G. Loss of Communications – Develop a radio frequency plan created, implemented and adopted by multi-agencies, allowing all agencies, local and visiting, involved in disasters to use corresponding frequencies. Existing USFS plan could be used for guidance.	1
4H. Drought – The County shall develop a Water Policy which shall include, but not be limited to, an inventory of County water resources and methods of accessing them, water conservation policy definitions and use limits including what constitutes wasting water, and all pertinent information discovered during the course of creating the Policy.	4
4I. Drought – Encourage water suppliers to monitor their supplies and develop shortage and emergency policies relative to their systems.	0

4.3 Implementation of Mitigation Actions

ELEMENT C: Mitigation Strategy
Requirement
C5. §**44 CFR Requirement 201.6(c)(3)(ii): The mitigation strategy shall include an action strategy describing how the actions identified in paragraph (c)(2)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefits review of the proposed projects and their associated costs.**

To prioritize the mitigation actions, the Steering Committee discussed the STAPLEE prioritization criteria recommended by FEMA. STAPLEE is a tool used to assess the costs and benefits and overall feasibility of mitigation actions. STAPLEE stands for the following:
Social: Will the action be acceptable to the community? Could it have an unfair effect on a particular segment of the population?
Technical: Is the action technically feasible? Are there secondary impacts? Does it offer a long-term solution?
Administrative: Are there adequate staffing, funding, and maintenance capabilities to implement the project?
Political: Will there be adequate political and public support for the project?
Legal: Does the jurisdiction have the legal authority to implement the action?
Economic: Is the action cost-beneficial? Is there funding available? Will the action contribute to the local economy?
Environmental: Will there be negative environmental consequences from the action? Does it comply with environmental regulations? Is it consistent with community environmental goals?

Each member used STAPLEE to identify his or her top four mitigation actions and then voted for these actions. The votes were totaled. See Appendix D for the votes given to every identified mitigation action.

This process of identification and analysis of mitigation alternatives allowed the Steering Committee to prioritize recommended mitigation actions. Emphasis was placed on the importance of a benefit-cost analysis in determining project priority; however, this was not a quantitative analysis. The Disaster Mitigation Act regulations state that benefit-cost review is the primary method by which mitigation projects should be prioritized. Criteria used to assist in evaluating the benefit-cost of a mitigation action included:

- Does the action address hazards or areas with the highest risk?
- Does the action protect lives?
- Does the action protect infrastructure, community assets or critical facilities?
- Does the action meet multiple objectives (Multiple Objective Management)?
- What will the action cost?
- What is the timing of available funding?

Recognizing the federal regulatory requirement to prioritize by benefit-cost, and the need for any publicly funded project to be cost-effective, the Steering Committee decided to pursue implementation according to when and where damage occurs, available funding, political will, jurisdictional priority, and

priorities identified in the California State Multi-Hazard Mitigation Plan. Due to time constraints, the Steering Committee was unable to create benefit-cost analysis for any of the identified mitigation actions. Budget analysis will be addressed in a future update of this plan.

All of the identified mitigation actions listed in Appendix D were narrowed down to the eight listed mitigation actions in Table 4.2 based on the number of votes each received from Steering Committee members after going through the STAPLEE process. Only “High” and “Medium” priority projects are being considered at this time. Cost-effectiveness will be considered in additional detail through a formal benefit cost analysis when seeking FEMA mitigation grant funding for eligible projects identified in this plan in the future.

Considering that the County has few financial capabilities at this time other than a one-person planning department, the mitigation actions to be implemented during this 5 year planning period include those required by FEMA, those that seek funding, and Action #8, which is supported by the Trinity County OES and a Board of Supervisors’ member. If any mitigation actions listed in Appendix D are implemented during this planning period due to availability of funding and/or political will, an update to this plan will be submitted. Recognizing that the County has partners who work together to seek funding, those possible partners are also listed in Table 4.2 on page 4.10.

Table 4.2 Trinity County Mitigation Actions

No.	Action	Priority	Votes	Possible Partners	Responsible	Time Line	Costs*
1.	Coordinate annual review of multi-hazard mitigation plan. (Required by FEMA)	High	n/a	n/a	Trinity Planning Department	Annual	
2.	Adopt multi-hazard mitigation plan in safety element of general plan. (Required by FEMA)	High	n/a	n/a	Trinity Planning Department	March 2016 - 2017	
3.	Develop mitigation page on County's website to host final version of multi-hazard mitigation plan and keep hard copies of final plan available in library. (Required by FEMA)	High	n/a	n/a	Trinity Technical Services	March 2016-2017	
4.	Multi-hazard – Identify, develop and secure funding to bring existing repeater sites up to current standards, including, but not limited to, weather-proofing, security fencing, cameras, and design specifications.	High	8	TC Fire Chiefs' Assoc.; Fire Safe Council; TC Disaster Council (OES)	Trinity County OES & BOS	2016-2020	
5.	Wildfire/Multi-hazard – Identify, develop and secure funding to explore and create: a centralized GIS mapping of water sources for firefighting, structure location, bridges, and all County infrastructure and services necessary for emergency response; ground-truthing and updating such a system; and communications between local and visiting resources regarding the system.	High	6	TC Fire Chiefs' Assoc.; Fire Safe Council; TC Disaster Council (OES) TC Resource Conservation District	Trinity County OES & BOS	2016-2020	
6.	Loss of Communications – Identify, develop, secure funding and implement access to redundant communications such as "COW" repeaters, amateur radio systems, land lines, cell boosters, "Code Red" web service and any other methods available not only for first responders and agencies involved in disaster response, but also for county residents.	Medium	5	TC Fire Chiefs' Assoc.; Fire Safe Council; TC Disaster Council (OES); AREL	Trinity County OES & BOS	2016-2020	
7.	Multi-hazard (Wildfire/Drought/Climate change/Flood) – Improve watershed and forest health through actions to reduce illegal water diversions, fire hazards, and unsustainable agricultural practices.	Medium	5	TC Fire Chiefs' Assoc.; Fire Safe Council; TC Disaster Council (OES)	Trinity County BOS; Planning Department	2016-2020	
8	Drought – The County shall develop a Water Policy which shall include, but not be limited to, an inventory of County water resources and methods of accessing them, water conservation policy definitions and use limits including what constitutes wasting water, and all pertinent information discovered during the course of creating the Policy.	Medium	4	TC Disaster Council (OES)	Trinity County BOS	2016-2020	

Actions 1-3 will be completed according to the FEMA timeline. The remaining actions, as well as those listed in Appendix D, will be completed as resources and funding becomes available.
*Cost per actions were not able to be performed at this time and will be addressed in the next update.

Chapter 5: Plan Implementation and Maintenance

ELEMENT A & C: Implementation and Maintenance
Requirement
C6. §44 CFR Requirement 201.6(c)(3)(ii): The mitigation strategy shall include a process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvements, when appropriate.
A5. §201.6(c)(4)(iii) [The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.
A6. §201.6(c)(4)(i) [The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five year cycle.

This chapter provides an overview of the overall strategy for plan implementation and maintenance and outlines the method and schedule for monitoring, updating, and evaluating the plan. The chapter also discusses incorporating the plan into existing planning mechanisms and how to address continued public involvement.

5.1 Implementation

Implementation and maintenance are critical to the mitigation plan's overall success. While this plan makes many important recommendations, the jurisdictions will need to decide which action(s) to undertake first. Two factors will help with making that decision: the priority assigned the actions in the planning process and funding availability. Low or no-cost actions most easily demonstrate progress toward successful plan implementation.

An important implementation mechanism that is highly effective and low-cost is incorporation of the hazard mitigation plan recommendations and their underlying principles into other plans and mechanisms, such as comprehensive planning, capital improvement budgeting, economic development goals and incentives, and other regional plans. Mitigation is most successful when it is incorporated in the day-to-day functions and priorities of government and in land use and development planning. This integration can be accomplished through identifying multi-objective, win-win programs and projects and through the routine actions of monitoring agendas, attending meetings, sending memos, and promoting safe, sustainable communities.

Simultaneous to these efforts, it is important to maintain a constant monitoring of funding opportunities that can be leveraged to implement some of the more costly recommended actions. This will include creating and maintaining a bank of ideas on how to meet local match or participation requirements. When funding does become available, the participating jurisdictions will be in a position to capitalize on the opportunity. Funding opportunities to be monitored include special pre- and post-disaster funds, special district budgeted funds, state and federal earmarked funds, and other grant programs, including those that can serve or support multi-objective applications. Additional mitigation strategies include

consistent and ongoing enforcement of existing rules and regulations and vigilant review of countywide programs for opportunities for better coordination.

5.2 Monitoring, Evaluating, and Updating the Plan

With adoption of this plan, the Trinity County Disaster Council (TCDC) will be tasked with plan monitoring, evaluation, and maintenance. The TCDC is an emergency management team composed of the major jurisdictional representatives in Trinity County that are responsible for responding to and managing broad based emergency events. The participating jurisdictions and agencies, led by the Trinity County Office of Emergency Services, agree to:

- Monitor and evaluate the implementation of the plan on an annual basis at a regularly scheduled meeting and after a disaster event;
- Act as a forum for hazard mitigation issues;
- Disseminate hazard mitigation ideas and activities to all participants;
- Pursue the implementation of high priority, low- or no-cost recommended actions;
- Maintain vigilant monitoring of multi-objective, cost-share, and other funding opportunities to help the community implement the plan's recommended actions for which no current funding exists;
- Monitor and assist in implementation and update of this plan;
- Keep the concept of mitigation in the forefront of community decision making by identifying plan recommendations when other community goals, plans, and activities overlap, influence, or directly affect increased community vulnerability to disasters;
- Report on plan progress and recommended changes to the Trinity County Board of Supervisors; and
- Inform and solicit input from the public.

The TCDC is an advisory body and will not have any powers over County staff. Its primary duty is to see the plan successfully carried out and to report to the community governing boards and the public on the status of plan implementation and mitigation opportunities. Other duties include reviewing and promoting mitigation proposals, hearing stakeholder concerns about hazard mitigation, passing concerns on to appropriate entities, and providing relevant information to the County technical services to post on the County website.

The TCDC agrees to meet annually to review the plan, monitor progress, and update the mitigation strategy. The Trinity County OES manager is responsible for adding the reviews to the regularly scheduled meeting agendas, starting one year from adoption of the plan. In conjunction with other participating jurisdictions (Humboldt Bay Municipal Water District), a five year written update of the plan will be submitted to the California Office of Emergency Management and FEMA Region IX, unless disaster or other circumstances require a change to the schedule.

Evaluation of progress can be achieved by monitoring changes in vulnerabilities identified in the plan. Changes in vulnerability can be identified by noting:

- Decreased vulnerability as a result of implementing recommended actions,
- Increased vulnerability as a result of failed or ineffective mitigation actions, and/or
- Increased vulnerability as a result of new development .

Updates to this plan will:

- Consider changes in vulnerability due to action implementation
- Document success stories where mitigation efforts have proven effective
- Document areas where mitigation actions were not effective
- Document any new hazards that may arise or were previously overlooked
- Incorporate new data or studies on hazards and risks
- Incorporate new capabilities or changes in capabilities
- Incorporate growth and development-related changes to inventories
- Incorporate new action recommendations or changes in action prioritization

To best evaluate any changes in vulnerability as a result of plan implementation, the participating jurisdictions will follow the following process:
A representative from the responsible office identified in each mitigation action will be responsible for tracking and reporting on an annual basis to the jurisdictional lead on action status and provide input on whether the action as implemented meets the defined objectives and is likely to be successful in reducing vulnerabilities.
If the action does not meet identified objectives, the jurisdictional lead will determine what additional measures may be implemented, and an assigned individual will be responsible for defining action scope, implementing the action, monitoring success of the action, and making any required modifications to the plan.

Changes will be made to the plan to accommodate for actions that have failed or are not considered feasible after a review of their consistency with established criteria, timeframe, community priorities, and/or funding resources. Actions that were not ranked high but were identified as potential mitigation activities will be reviewed as well during the monitoring and update of this plan to determine feasibility of future implementation. Updating of the plan will be by written changes and submissions, as the Trinity County Office of Emergency Services deems appropriate and necessary, and as approved by the Trinity County Board of Supervisors.

5.3 Incorporation into Existing Planning Mechanisms

Local jurisdiction reimbursement for mitigation projects and cost recovery after a disaster is guided by Government Code Section 8685.9. Specifically, this section requires that the County must adopt a local hazard mitigation plan (LHMP) in accordance with the federal Disaster Mitigation Act of 2000 as part of the safety element of its general plan adopted pursuant to subdivision (g) of Section 65302. It is important to fold Trinity County's Hazard Mitigation Plan annex into the safety element as part of the next general plan update.

Where possible, plan participants will use existing plans and/or programs to implement hazard mitigation actions. Based on the capability assessments of the participating jurisdictions, communities in Trinity County continue to plan and implement programs to reduce losses to life and property from hazards. This plan builds upon the momentum developed through previous and related planning efforts and mitigation programs and recommends implementing actions, where possible, through the following plans:

- Trinity County General Plan
- Trinity County Emergency Operations Plan
- Trinity County Wildfire Protection Plan
- General or master plans of participating jurisdictions

- Ordinances of participating jurisdictions
- Capital improvement plans and budgets
- Flood/Stormwater management/master plans
- Drought Plans
- Other plans, regulations, and practices with a mitigation focus

Steering Committee members involved in these other planning mechanisms will be responsible for integrating the findings and recommendations of this plan with these other plans, programs, etc., as appropriate. Incorporation into existing planning mechanisms will be done through routine actions of:

- Monitoring other planning/program agendas
- Attending other planning/program meetings
- Participating on other planning processes and meetings
- Monitoring community budget meetings for other opportunities

The successful implementation of this mitigation strategy will require constant and vigilant review of existing plans and programs for coordination and multi-objective opportunities that promote a safe and sustainable community.

Example of incorporation of the Plan into existing planning mechanisms include:
1. As recommended by Assembly Bill 2140, each community should adopt (by reference or incorporation) this LHMP into the Safety Element of their General Plan(s). Evidence of such adoption (by formal, certified resolution) shall be provided to CalOES and FEMA.

Continuous efforts should be made to monitor the progress of mitigation actions implemented through these other planning mechanisms and, where appropriate, their priority actions should be incorporated into updates of this hazard mitigation plan.

Chapter 6: Humboldt Bay Municipal Water District Annex

6.1 Hazard Mitigation Plan Point of Contact

Primary Point of Contact
John Friedenbach, Business Manager
828 7th Street
Eureka, CA 95501-1114
Telephone: 707-443-5018
e-mail Address: office@hbmwd.com

Alternate Point of Contact
Paul Helliker, General Manager
PO Box 95
Eureka, CA 95502-0095
Telephone: 707-443-5018
e-mail: Helliker@hbmwd.com

6.2 Jurisdiction Profile

The Humboldt Bay Municipal Water District was formed on March 19, 1956 pursuant to the California Municipal Water District Act. It is a special district created to develop a regional water system to provide a reliable supply of drinking and industrial water to customers in the greater Humboldt Bay area of Humboldt and Trinity Counties. The source of water supply is the Ruth Lake Reservoir located in Trinity County. The reservoir was created by construction of the R.W. Mathews Dam. The District has 25 employees—6 at the Eureka office, 19 at the operations center near Essex, and 1 at the District's Ruth Lake facilities. Operations are primarily funded by charging costs incurred to its customers for water delivered.

The HBMWD Business Manager participated in both the counties' planning meetings for their respective Mitigation Plans. Documentation of meeting schedules, sign-in sheets and public participation can be found in their corresponding sections. The District's governing body is its Board of Directors which has adoptive powers whom will assume the responsibility for the adoption, implementation, monitoring, and evaluating of this mitigation plan annex.

The Humboldt Bay Municipal Water District (HBMWD) is principally located and operated in Humboldt County, along with the majority of its facilities and infrastructure. However, two major components of HBMWD's operations—the R.W. Matthews Dam and the Gosselin Hydro-electric Power House—are located in Trinity County. Only the facilities and infrastructure located in Trinity County are addressed in this annex, while the facilities and infrastructure located in Humboldt County are addressed in the Humboldt Operational Area Hazard Mitigation Plan, 2013, of which the HBMWD is also a participant.

The District has two separate and distinct pipeline systems – one delivers treated drinking water and the other untreated raw water. The District supplies treated drinking water on a wholesale basis to the following 7 municipal agencies located in Humboldt County: the cities of: Arcata, Eureka and Blue Lake; and the community services districts of: Fieldbrook-Glendale, Humboldt, Manila and McKinleyville. Via this wholesale relationship, the District serves water to a population of approximately 80,000. The District also directly serves treated drinking water to approximately 200 retail customers. The District supplies untreated, raw water on a wholesale basis to industrial customers located on the Samoa Peninsula for industrial purposes. Revenue generated from fees for service fund the District operations.

Currently, the District does not serve any industrial customers. However, we are working diligently to market this resource.

The District's service area is the greater Humboldt Bay area, including the community of McKinleyville to the north, College of the Redwoods to the south, and the City of Blue Lake to the east.

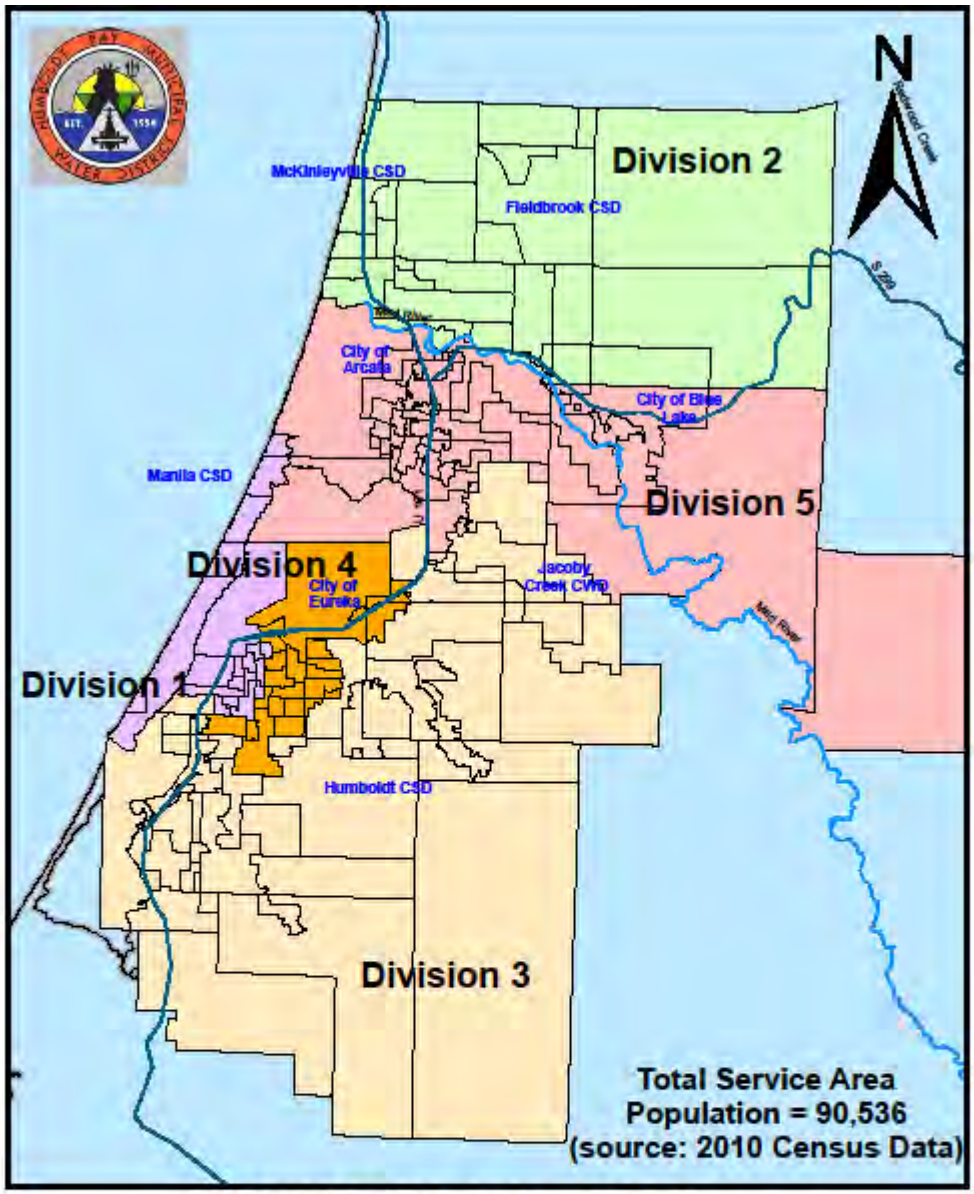
The following is a summary of key information about the jurisdiction:

Population Served— Approximately 80,000 (via seven wholesale municipal customers and 200 retail customers) in Humboldt county, according to 2010 US Census data.

- **Land Area Served—** 225,000 acres, or 350 square miles
- **Value of Area Served—** The estimated value of the total area served by the jurisdiction is $7,111,057,968 (Tax Year 2012).
- **Land Area Owned—** Approximately 2,600 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction located in Trinity County:**
  - R.W. Matthews Dam/Ruth Reservoir [$100,000,000]
  - Gosselin Hydro-Electric Power House [$25,000,000]
- **Total Value of Critical Infrastructure/Equipment—** The total value of critical infrastructure and equipment located in Trinity County that is owned by the jurisdiction is $125,000,000 (scheduled value for insured items only). It would cost hundreds of millions of dollars to replace critical infrastructure.
- **List of Critical Facilities Owned by the Jurisdiction located in Trinity County:**
  - R.W. Mathews Dam (Trinity County) [$100,000,000]
  - Ruth Headquarters Building (Trinity County) [$210,000]
- **Total Value of Critical Facilities—**The total value of critical facilities located in Trinity County that is owned by the jurisdiction is $100,210,000 (scheduled value for insured items only)
- **Current and Anticipated Service Trends—** Meter service growth.

The jurisdiction's division boundaries in Humboldt County are shown on Figure 6.1 (HBMWD Division Boundary Map) and the jurisdiction's property boundaries surrounding Ruth Lake in Trinity County are shown on Figure 6.2 (HBMWD Ruth Lake Property Boundaries).

Figure 6.1 HBMWD Division Boundary Map



HBMWD Divisions Map

0 9,000 18,000 36,000 54,000 Feet

1 inch = 15,113 feet

Legend

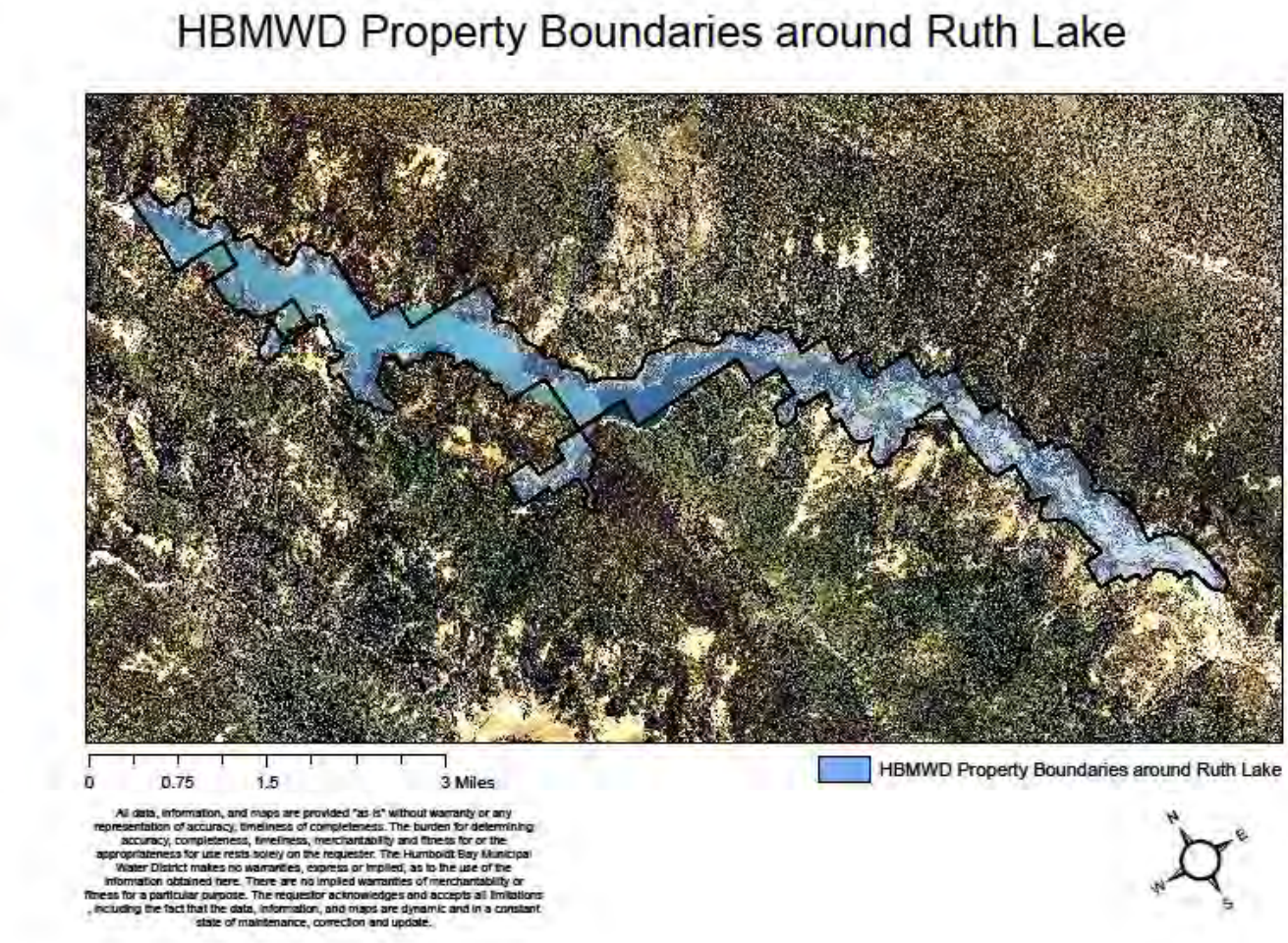
Divisions

- Division 1
- Division 2
- Division 3
- Division 4
- Division 5

Division areas are made up from contiguous election precints. Any questions about specific residential locations within / without a Division Boundary should be directed to the Humboldt County Elections Department: 3033 H Street, Room 20, Eureka, 707-445-7481.

Date Approved: May 1, 2013

Figure 6.2 HBMWD Property Boundary Surrounding Ruth Lake



6.3 Jurisdiction-Specific Natural Hazard Event History

Although hazards have occurred throughout Humboldt and Trinity Counties, Table 6-1 lists all past occurrences of natural hazards within the District's jurisdiction only. Data on past natural hazard events was gathered from the following sources:

Hazards & Vulnerability Research Institute (2013). The Spatial Hazard Events and Losses Database for the United States (SHELDUS™), Version 12.0 [Online Database]. Compilation of county-level hazard data for 18 different natural hazards (information on past hazard events). Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

DISASTER DECLARATION HISTORY FROM FEMA. AVAILABLE FROM HTTPS://WWW.FEMA.GOV/DISASTERS.

TABLE 6-1.
NATURAL HAZARD EVENTS

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flood	DR-183	12/24/1964	Significant-amount unknown
Drought	Emergency declaration #3023	1977	Minimal (short duration)
Earthquake	N/A	Dec 1994	$7,000
Winter storms, flooding, landslides, mud flows	DR-1044	1/9/1995	$22,500
Severe winter storms, flooding	DR-1046	3/12/1995	$97,000
Severe Weather	N/A	12/12/1995	$115,000
Severe winter storms, flooding	DR-1155	1/4/1997	$204,500
Severe winter storms, flooding	DR-1203	2/9/1998	$59,000
Flooding, severe winter storms, and landslides	M#1628	02/03/2006	$84,000

6.4 Hazard Risk Ranking

The hazards and their rankings contained in both mitigation plans for Humboldt and Trinity Counties reflect the impacts they have in their overall planning areas. Table 6-2 presents the ranking of the hazards of concern within the jurisdiction of the HBMWD. The Risk Rating Scores are based on the probability of occurrence and the potential impact on HBMWD's constituency, vital facilities, and the facilities' functionality after an event (this includes the impact of hazards on all of HBMWD's facilities and constituents, including those in Humboldt County). Refer to the footnotes in Table 6.2 for more detailed information addressing calculation methods.

Although Table 6.2 shows Earthquakes as the number one hazard and Dam Failure as number 3, for HBMWD assets at risk located in Trinity County alone, Dam Failure presents the greatest risk for HBMWD, followed by Earthquake, which could potentially trigger a dam failure. The extent of major impacts of a failure at Matthews Dam in Trinity County would likely include: the inundation (Flood Hazard) of Lower Mad River Road from the location of the dam to where this road intersects State Highway 36, approximately 7-8 miles downstream; with minor impacts within the remaining four miles to the Humboldt/Trinity County line. The small community of Mad River is also located near the intersection of Highway 36 and Lower Mad River Road. It would take an estimated 40-45 minutes for the initial leading wave to reach the Highway 36 intersection. Immediate notification and evacuation of people within the predicted inundation zone would be of critical importance, given this short timeframe.

For this reason, and for purposes of this annex, only Dam Failure and Earthquakes are considered of high priority and addressed in the HBMWD's mitigation strategy section.

TABLE 6-2.
HAZARD RISK RANKING

Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Earthquake	48
2	Flood	30
3	Dam Failure	24
4	Severe Weather	22
5	Landslide	12
6	Wild Fire	6
7	Drought	6
8	Loss of Communications	0
9	Hazardous Materials	0
10	Widespread Infectious Disease	0

The Risk Rating Scores for each Natural Hazard were generated by multiplying a value representing the Probability of Occurrence by a value representing the Impact of the Hazard.

The **Probability of Occurrence** value was determined by estimating the frequency that a hazard event is likely to occur and assigning it a value (e.g.: hazard event likely to occur within 25 years = High = value of 3; hazard event likely to occur within 100 years = Medium = value of 2; hazard event not likely to occur within 100 years = Low = value of 1). That value was multiplied by 1 to get the weighted value for the Hazard Probability.

The **Impact of the Hazard** value is a sum of three weighted values representing the Hazard's Impact on (1) people, (2) property, and (3) District operations. The value for the Impact on People was based on the percentage of the population served by the District that would be exposed to the hazard (30% or more of population exposed = High = 3; 15 – 29% of population exposed = Medium = 2; 14% or less of population exposed = Low = 1), then that number was multiplied by 3 to get the weighted value of the Hazard Impact on People. The value for the Impact on Property was based on the percentage of the assessed property value (AV) of District facilities, equipment and infrastructure that are exposed to the hazard, compared to the total assessed value (AV) of the District's assets (50% or more of total AV exposed to hazard = High = 3; 25 – 49% of AV exposed to hazard = Medium = 2; 24% or less of total AV exposed to hazard = Low = 1), then that number was multiplied by 2 to get the weighted value of the Hazard Impact on Property. The value of the Impact on District Operations was based on the estimated functional downtime of District facilities (how long it would take to be 100% operable) exposed to the hazard (365 days or more = High = 3; 180 – 364 days = Medium = 2; less than 180 days = Low = 1), then that number was multiplied by 1 to get the weighted value of the Hazard Impact on District Operations.

6.5 Applicable Regulations and Plans

Humboldt Bay Municipal Water District is a Special District under the California constitution. As such, it does not promulgate laws and regulations relating to hazard mitigation. Existing codes, ordinances, policies or plans concerning Dam Regulation standards are promulgated by the following agencies:

- California Department of Dam Safety
- Federal Energy Regulatory Commission

Both the California DSOD and Federal FERC promulgate and implement dam safety laws and regulations. HBMWD complies with these programs and regulations thereby reducing the risk of operating the R. W. Matthews dam.

6.6 Hazard Mitigation Action Plan and Evaluation of Recommended Initiatives

The HBMWD District goals for hazard mitigation within Trinity County are consistent with the Trinity County goals listed in Chapter 4. They are listed below. Table 6-3 lists the all initiatives that make up the jurisdiction's hazard mitigation strategies within Trinity County. Table 6-4 identifies the priority process for each initiative.

Trinity County Hazard Mitigation Goals and Objectives:

Goal 1: Significantly reduce injuries and loss of life.
Goal 1 Objectives:
1.1 Strengthen early notification and warning systems.
1.2 Strengthen communications systems and address gaps.
1.3 Ensure there are safe places for people to stay and/or necessary supplies during an event.
1.4 Revise land development regulations, if needed.
1.5 Advance community resilience through preparation, adoption, and implementation of state, regional, and local hazard mitigation plans and projects.
Goal 2: Minimize damage to structures and property, as well as disruption of essential services and human activities.
Goal 2 Objectives:
2.1 Implement projects to protect critical and necessary assets in hazard risk areas.
2.2 Establish and maintain partnerships among all levels of government, private sector, and non-profit organizations that improve and implement methods to protect life and property.
2.3 Protect essential infrastructure.
Goal 3: Protect the environment.
Goal 3 Objectives:
3.1 Encourage hazard mitigation measures that promote and enhance natural processes and minimize adverse impacts on the ecosystem.
3.2 Implement wildfire mitigation and watershed protection strategies as identified in the Community Wildfire Protection Plan (CWPP).
Goal 4: Promote hazard mitigation as an integrated public policy and as a standard business practice.
Goal 4 Objectives:
4.1 Continually build linkages among hazard mitigation, disaster preparedness and recovery programs.
4.2 Use mandatory local general plan, zoning and subdivision requirements to help establish resilient and sustainable communities.
4.3 Promote and enhance outreach and education efforts by all agencies with hazard

mitigation plans and programs to encourage engagement of stakeholder groups.
4.4 Coordinate efforts to consider climate change impacts in planning decisions.

TABLE 6-3.
HAZARD MITIGATION ACTION PLAN MATRIX

Applies to new or existing assets	Hazards Mitigated	Lead Agency	Estimated Cost	Sources of Funding	Timeline
HBMWD-1 Stabilize surficial slide below the left abutment of the dam					
New	Dam Failure	HBMWD	$1.5 M	FEMA HMGP and local agency funds	5 to 10 years
Initiative-2 Replace Log boom at R.W. Mathews Dam (Ruth Reservoir) to improve dam safety					
Existing (Humboldt County Update)	Dam Failure	HBMWD	$115,000	District Funds	1 to 5 years
Initiative-3 Develop Dam Contingency Failure Plan & Implement recommended action re: notification & evacuation systems					
New	Dam Failure	HBMWD / Trinity County / Humboldt County	$100,000	FEMA HMGP and local agency funds	5 to 10 years
Initiative- 4 Retrofit or replace spillway wall at R.W. Matthews Dam					
Existing (Humboldt County Update)	Dam Failure, Earthquake	HBMWD	$ 2 M	FEMA HMGP or District Funds	5 to 10 years
Initiative – 5 Revetment of creek at Sheriff's Cove to access dam and log boom from water.					
New	Dam Failure	HBMWD	$500,000	FEMA HMGP and District funds	5 to 10 years

TABLE 6-4.
MITIGATION STRATEGY PRIORITY SCHEDULE

Initiative #	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority[a]
1	M	H	Y	Y	N	H
2	H	H	Y	Y	Y	H
3	M	M	Y	N	N	M
4	H	H	Y	Y	N	H
5	H	H	Y	Y	N	H

a. Explanation of priorities
- High Priority: Project meets multiple plan objectives, benefits exceed cost, funding is secured under existing programs, or is grant eligible, and project can be completed in 1 to 5 years (i.e., short term project) once funded.
- Medium Priority: Project meets at least 1 plan objective, benefits exceed costs, requires special funding authorization under existing programs, grant eligibility is questionable, and project can be completed in 1 to 5 years once funded.
- Low Priority: Project will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, project is not grant eligible, and time line for completion is long term (5 to 10 years).

6.7 Resolution of Adoption

Appendix A

Meeting Materials and Documentation

Trinity County
Resource Conservation District
Post Office Box 1450 · One Horseshoe Lane · Weaverville, CA 96093 · www.tcrcd.net

October 22, 2013

To: Trinity County Agencies, Entities, and Interested Citizens

I would like to invite you to attend the first steering committee meeting to begin drafting the Trinity County Local Hazard Mitigation Plan (LHMP). It will be held on Wednesday, November 6, from 1 p.m. to 2:30 p.m. at the Trinity PUD Conference Room in Weaverville.

The 2008 Trinity County wildfires brought home the message of how natural disasters can have a rippling affect across multiple populations. The fires had impacts that affected health, transportation, businesses and county revenues, to name a few. Out of those calamitous fires rose the opportunity for Trinity County and its residents to create a plan containing steps that will reduce or eliminate the impact of future natural and man-made disasters.

Trinity County Resource Conservation District has obtained funding through the Disaster Recovery Initiative to help spearhead this project for the County. We are seeking the participation and involvement of local governments, special districts, utility companies, water companies, and other possible stakeholders within Trinity County.

This partnership will work together to address multiple hazards faced by Trinity County communities and draft the LHMP. This plan will inventory potential hazards that the county is most vulnerable to, assess the risk to its citizens, buildings and critical facilities, and develop a mitigation strategy to reduce the risk of exposure and allow a swift and organized recovery should a disaster occur. Existing plans will be linked together through this document.

All Local Hazard Mitigation Plans are a result of the Disaster Mitigation Act of 2000 (DMA 2000) which requires local governments to adopt a federally approved plan in order to receive pre- and post-disaster funds. The DMA emphasizes planning for disasters before they occur.

You can be part of the solution to minimize the impact of hazard events by becoming active in our county's hazard mitigation planning process.

We appreciate any level of participation that you can contribute toward the Trinity County LHMP. I look forward to working with you on this important project.

Please give me a call at 623-6004 if you have any questions, or if you can't make this meeting, but would like to be a part of the planning process.

Sincerely,

Donna Rupp
Trinity County RCD
drupp@tcrcd.net

LHMP Meeting Agenda
November 6, 2013, 1:00 pm – 2:30 pm
Trinity PUD Conference Room, Weaverville

Fill out surveys prior to start
1:00 p.m. Introduction of attendees

1:15 – 1:45
Introduction of topic
- Why we are doing this and how the process will work
- Need for Steering Committee

1:45 – 2:00
Areas of Concern
Review areas from Safety Element, decide if they should be re-grouped, expanded or adjusted for hazard mitigation.
- Airport Safety
  - Under hazard mitigation, these would be considered critical features and addressed under each hazard.
- Flood Risks or Dam Failures (and?)
- Hazardous Materials
- Seismic or Geologic Hazards (and?)
- Wildfire and Structures
  - Structures are examined under every category for hazard mitigation
- Air Quality
- Climate Change
- Military Operation Area

Additional not included in safety element?
- Health crisis (flu outbreak, etc.)
- Others? _____--

2:00 – 2:30
Existing plans from organizations and agencies
List
- Where are your gaps?
- Homework – Review your existing plans for gaps. If possible, email a pdf or forward a link to your current emergency plan to drupp@tcrcd.net. Return to Donna Rupp by **November 27**
- Mail: TCRCD PO Box 1450, Weaverville 96093; Drop at Office: 1 Horseshoe Ln., Weaverville

Handouts:
- Survey
- Trinity County Disaster History

Next group meeting: December 4 or 5?

LHMP Meeting Notes

November 6, 2013

Trinity PUD Conference Room

Ten people attended this meeting to kick-off the Trinity County Hazard Mitigation Plan Process. People signed in and picked up an Agenda, Declared Trinity County Disaster History, and Hazard Mitigation Survey (see attached). Donna Rupp provided an introduction of the Hazard Mitigation Plan and need for a Steering Committee to guide this process. She discussed the steps required: 1) Planning Process the need to document public participation, review existing plans, invite all jurisdictions to participate (36 invitations to this meeting were made); 2) ID and Assessment the need to review hazard impacts, types, profiles (previous events, probability of future events, magnitude, location etc.) Flood/FEMA maps should be reviewed as well; 3) Create Mitigation Strategy to expand/improve existing plans, analyze, estimate cost/benefits vulnerabilities, id funding, develop an action plan; and the final step being 4) Plan Adoption .

Steering Committee

The group felt that the Steering Committee should have fewer than 10- people on it and should include representatives from law enforcement, health, emergency services, fire, roads. Donna asked for volunteers and got Frank Lynch, representing the Planning Department, Kathy Ratliff of Trinity County Life Support, Larry Masterman from Trinity County Office of Emergency Services, possibly Jim Cloud from Weaverville Sanitary. Wendy Tyler was going to check with the Trinity County Board of Supervisors to see who they wanted to represent Trinity County. Wendy asked who we feel the "players" that need to be involved in this would include. The group felt that the Sherriff's Department/law enforcement ("first boots on the ground") needed to be included in this, while the hospital, and Health and Human Services would also be helpful. HRN could represent more non-governmental associations address impacts and shelter issues. Churches and the gonpa could be partners. There is a ministerial group that meets once per month that could be approached.

Outside Weaverville there are CSD with infrastructure issues, over 100 drinking water suppliers (could we have one representative for these interests?) Department of Transportation should be in the discussions.

Areas of Concern

Airport safety--there is a mandate to include this, they are critical features on the map. Especially important due to isolation of Trinity County communities…airports may be only way

in (for supplies) or out (for injured people). State highways are at risk in floods/landslides. All resources are at risk.

Dams-Bureau of Reclamation for Trinity, Lewiston, and Buckhorn dams, will write a summary up as GIS layers are not publically available. Larry Masterman (OES) has Emergency Action Plan for the dams, but not for distribution. We will want to locate "safe zones" in case of dam failure. TC Life Support has been involved in simulated dam failure drill (airport important in this case).

Communication would be critical—how to get information out to people and Emergency Services.

Flooding—the Courthouse and hospital are vulnerable to flooding and if courthouse flooded County Communications are out. East Weaver Creek Levee is a problem. Fish and Wildlfie Service vs. Army Corps of Engineers USFWS wants vegetation habitat and ACOE says the vegetation is ruining the integrity of the levee. Massive flooding could wipe out road/sewar system. Sanitary District would just call people with equipment to get repaired ASAP.

Hazardous Materials (Haz Mat) accidents average a dozen per year (according to Larry Masterman), but becoming more of a problem. Almost all take place on the Highways.

Earthquake "red zone" located in the SW corner of the county primarily (Island Mountain?). Fault map and shake maps show Hwy 299 or 36 vulnerable.

Tsunami and coastal earthquake- Trinity County would be the recipient of folks escaping from the coast. Could Trinity County provide Emergency Shelters? There is a mandate that the county locate a zone for emergency shelters. The HMP can put in the Action Plan a high priority to apply for funding for Emergency Shelters.

Wildfire is the USFS #1 concern according to Lara Graham. The USFS worked with TCRCD, WRTC and TCFSC on the Safety Element. Continue to treat hazardous fuels on USFS lands near private lands (but there is 4.2 million acres). The focus on wildfires has been done, other areas need more looking at.

Structure fires-PUD says that they will disconnect power as quickly as possible. Sanitary District says they would let is all burn down so they can replace the old pipes. It has hazardous material—it is public knowledge (mostly chorine gas 1500#). There are only a few Sanitary Districts besides Weaverville, Hayfork and 2 in Lewiston, others are mostly just little shared septic systems. Weaverville Sanitary has the only certified lab and has some contact with other districts for use of the lab.

Department of Drinking water more extensive listing. Contact May Bundy more than 110. (including campgrounds).

County Hazmat Area Plan—every entity that has Hazardous materials (135 entities in the county)

Air Quality can be a health issue in the winter with wood smoke and the inversion.

Climate change- We need to factor in extreme weather.

Military Operations area-potential jet crashes, live ordinance

Homework:

Review existing plans, send Donna a copy, think about and list any gaps (gap analysis)

OES has the Trinity County Emergency Operating Plan. It is a basic plan, not hazard specific. It has a lot of functional checklists.

Frank Moore representing the Hyampom CSD brought a list of items that is of concern to the CSD. (See attached). Talked about the high importance to that community to repair Corral Bottom Road for ingress/egress. It would be very useful to have a snow blower to clear the road in the event of extreme weather.

Larry Masterman applauded Hyampom's ability to deal with difficult situations and we can use their experience as a lesson. "Support Hyampom being able to take care of themselves."

Next meeting for the Steering Committee is scheduled for Thursday, December 5th.



Trinity County Hazard Mitigation Plan Meeting

November 6, 2013

Sign-In

	Name	Representing	E-mail/phone	Travel time
1.	FRANK MOORE	HYAMPOM CSD	FGMOORE@GMAIL.COM	5.0
2.	Kathy Ratliff	Trinity Co Life Support	kratliff@tcls.org	-0-
3.	LARRY MASTERMAN	T.C. OES	623 5047	0
4.	Noreen Doyas	TCRCD	ndoyas@netscape.net	
5.	Paul Hauser	TPUD	phauser@trinitypud.com	
6.	Frank Lynn	TC Planning	flynn@trinitycounty.org	
7.	Wendy Tyler	Trinity County	wtyler@trinitycounty.org	
8.	Laird Graham	USDA - FS - SHF	lgraham@fs.fed.us	
9.	Jim Cloud	Weaverville Sanitary	weavervillesd@yahoo.com	
10.				
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12.				
13.				

LHMP Meeting Agenda

December 5, 2013, 1:00 pm – 2:00 pm
Trinity County RCD Conference Room, Weaverville

Invited: Scott Alvord, Martin Dooly, Noreen Doyas, Karl Fisher, Ray Hurlburt, Frank Lynch, Larry Masterman, Frank Moore, Kathy Ratliff, Donna Rupp and Wendy Tyler.

Absent:

Updates
Meetings with:

CSD – Met with Wes Scribner at CSD. He provided me with a list of water districts in county. Since they don't meet as a group, can some members of SC make some contacts?

Hospital – Spoke with Stan O. He is working on a putting together a meeting of employees who were there during last flood to review gaps and possible mitigation actions.

Required Decisions for Plan (See "Details" Document)

1. Risk Assessments - Steering Committee needs to approve a list of hazards that will be evaluated for risk assessment.

2. Communities – Steering Committee needs to choose which communities will have detailed maps.

3. Goals Steering Committee needs to establish goals for Trinity County LHMP.

4. On line information and survey
Draft and edit based on results from survey at November 6 meeting.
Need by public meeting in January.

Draft Schedule
Attached

Other

Adjourn

LHMP Steering Committee Meeting Notes

December 5, 2013

Attending: Donna Rupp, Noreen Doyas, Wendy Tyler, Frank Lynch, and Frank Moore. Others had been invited, but unable to attend: Scott Alvord, Martin Dooly, Karl Fisher, Ray Hurlburt, Larry Masterman, and Kathy Ratliff.

Donna gave an update regarding meetings she had with the CSD where some weak spots in their system have been identified and with the Hospital where they will be looking at flood zone issues. The hospital will set up a meeting in January for employees who were there the last time it flooded to gather information and discuss gaps.

Required Decisions for Plan

1. Risk Assessments- What hazards do we want to include in the Plan?

Frank Lynch commented that Climate Change can either be discussed in its own chapter or within each of the others. It was agreed to discuss in other sections, but to also have a section of its own which refers to the other sections where the narrative includes Climate Change. Committee agreed to accept all risks listed in Safety Element as the LHMP supports the Safety Element and will eventually be integrated. All risks in Safety Element are deemed valid and real by the Steering Committee.

Other risks listed from the EOP
Health Crisis is not in the Safety Element. What can we mitigate for locally? Refer to the Emergency Preparedness Plan when it is in process.

- Frank Moore stated that our county is very diverse. Weaverville is a different case than the rest. Outlying areas are tough without hospitals, clinics. Perhaps mitigation would include having EMT's at fire districts to provide inoculations.

Frank Lynch said that all the storms should be combined. (winter storms, wind and lightening). He felt that many of these "other" hazards are already covered in other sections.

At what point would drought trigger water rationing? County would want to make sure that the population has clean drinking water and should encourage conservation. Donna will follow up with Wes at the CSD regarding any policy regarding drought.

Act of Terror- just be diligent, perhaps better protection for the repeaters and communication systems

Volcanic Eruption-ash would be our primary concern here.

Mass contamination/exposure—It depends…perhaps we can address with a sentence?

Wendy suggested that we should leave all possible threats in and see what is "no threat" from the public survey. Steering Committee agreed to this plan.

2. Communities-What communities do we include detailed maps for in this plan?

Wendy suggested that we use the 5 CWPP Divisions; Frank L suggested that we use the CWPP divisions plus communities with populations over 500.

Wendy said that we should acknowledge that Trinity County has outlying areas. We need to get the basics done with this plan, keep it simple. Start a foundation and then we can build on it.

We need to show a Flood Plain map for the whole county based on FEMA requirements. Not all of the county is mapped by FEMA because it is remote. We will use what ever maps are available.

The group agreed to start broad, mention issues that affect all communities broadly, and add detail for the five largest communities based on population.

3. Goals

Frank Lynch said that Trinity County follows state codes- we do not intend to revise codes etc.

The following are the goals agreed upon by the Steering Committee:

Goal 1: Significantly reduce injuries and loss of life.

- Strengthen early notification and warning systems
- Strengthen communication systems (**Address gaps**)
- Ensure there are safe places for people to stay and/or necessary supplies during an event
- Revise land development regulations, if needed.
- Advance community resilience through preparation, adoption, and implementation of state regional and local hazard mitigation plans and projects. (Frank M said this goal sums it up)

Goal 2: Minimize damage to structures and property, as well as disruption of essential services and human activities.

- Implement projects to protect critical **and necessary** assets in hazard risk areas.
- Wendy suggested we remove: ~~Implement projects to protect county-owned essential and necessary assets in hazard risk areas.~~
- Establish and maintain partnerships among all levels of government sector, private sector etc. that improve and implement methods to protect life and property.
- Protect essential infrastructure

  Instead of:
- ~~Protect utilities including power, water, and sewage~~
- ~~Transportation?~~
- ~~Loss of revenue to private sector?~~ No, protect people

Goal 3: Protect the environment

- Encourage hazard mitigation measures that promote and enhance natural processes and minimize adverse impacts on the ecosystem
- Implement wildfire mitigation and watershed protection strategies as identified in the CWPP

Goal 4: Promote hazard mitigation as an integrated public policy and as a standard business practice.

- Continually build linkages among HM, disaster preparedness and recovery programs
- Use mandatory local general plan, zoning and subdivision requirements to help establish resilient and sustainable communities
- Promote and enhance outreach and education efforts by all agencies with HM plans and programs to encourage engagement of stakeholder groups.
- Consider climate change impacts as it relates to decisions

4. On Line information and Survey

Frank Moore felt that we should consider causes vs. effects. "Lightening" causes "wildfire". The general public looks at the effects. Be very careful about how the survey is worded before it goes to the public. We need a different survey for the public than we have for county/organizations. Frank offered to review the survey and suggest wording before it goes public.

Draft Schedule – distributed. No comments.

Next Steering Committee meeting January 8 or 9, 2014. May need to move from Thursdays so sheriff's representative can attend.

Adjourn at 2:20 pm

Trinity County RCD Sign-in Sheet

EVENT: Mitigation planning Steering Committee Meeting **DATE:** December 5, 2013 **LOCATION:** TCRCD Conf. Room **HOURS:**

	Name (please print clearly)	Agency/Organization	Position/Rank	Travel Hours (round trip)
1	Wendy Tyler	Trinity County	CAO	0
2	Frank Lynch	Co. Planning	Planner	—
3	FRANK MOORE	HYAMPOM CSD		3
4	Donna Ruff	TCRCD		
5	Noreen Doyas	" "		
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LHMP Meeting Agenda

Thursday, January 9, 2014, 1:00 pm – 2:00 pm
Trinity County RCD Conference Room, Weaverville

Invited: Scott Alvord, Martin Dooly, Noreen Doyas, Karl Fisher, Ray Hurlburt, Frank Lynch, Frank Moore, Kathy Ratliff, Donna Rupp.

Cc: Wendy Tyler

Absent:

Updates
CSD drought policy: requested information from Wes Scribner.

From Larry M: "Steve Renten has assumed the duties of maintaining the EOC and some other OES functions."

Press release sent to Trinity Journal for January 8 & 15 publications regarding public meeting on January 16.

New Items
1. Review and approve goals updated based on feedback from last meeting.
2. Review public survey updated based on feedback from last meeting and input from Frank M.

    Survey will be conducted using Survey Monkey.

    Link should be placed on County website. Details for contact?
3. Public meeting agenda and presentation.

    Steering Committee needs to review and approve both.
4. Next steps after public meeting

Other

Adjourn

Trinity County RCD Sign-in Sheet

EVENT: Mitigation planning Steering Committee Meeting **DATE:** January 9, 2014 **LOCATION:** TCRCD Conf. Room **HOURS:**

	Name (please print clearly)	Agency/Organization	Position/Rank	Travel Hours (round trip)
1	CAROL MINOR	Hyampom Community Services District	Board Member	3
2	Frank Moore	Hyampom Community Services District		3
3	KARL FISHER	TC BOS DIST #3	SUPERVISOR	1.5
4	Kathy Ratliff	Trinity County Life Support	admin/Paramedic	-0-
5	Kelly Sheen	TCRCD		0
6	Noreen Doyac	TCRCD		0
7	Frank Lynam	TC Planning	Plannr	0
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NEWS BRIEFS

Public input sought on hazard mitigation

Trinity County is in the process of drafting a Local Hazard Mitigation Plan and is seeking public input for creating the draft report. A public meeting is scheduled for 6 to 8 p.m. Jan. 16 at the Weaverville Fire Hall.

Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

The meeting will include a brief presentation on hazard mitigation planning followed by a discussion. All Trinity County residents are encouraged to attend and share their knowledge of past disasters, how the disasters affected their communities, and input on how to mitigate for future possible risks. Maps of past disasters and currently known risks will be available for review and input.

When completed this plan will provide county residents, local government, special districts and health and human services with a clear understanding of local risks caused by natural and human hazards, and plans for reducing or eliminating long-term risks and their effects on people and property caused by those hazards.

For more information contact Donna at the Trinity County Resource Conservation District, 623-6004.

Volunteers needed for tax preparatic

The Human Response Network is sponsoring a V teer Income Tax Assistance program during the 20 season. Volunteers are needed to provide tax prepa assistance for low-income families.

Because of the help of community volunteers, thi be the 10th tax season HRN has been able to provic tax assistance to the residents of Trinity County. In 2012 tax season, the VITA program volunteers prep 306 tax returns, which brought $426,880 in federal refunds back to Trinity County residents.

Volunteers will have an office and computer stati provided at the HRN office, and will be trained on l to prepare the 1040EZ, 1040A and 1040 tax returns training is sponsored by the Internal Revenue Serv For an application or more information contact Mar or Jeanetta Dillon at 623-2024 or 1-800-358-5251 by Thursday, Jan. 9.

PHIL NELSON | THE TRINITY JOURNAL

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ımmunity.
s located at 106 Main St.
hours are 9 a.m. to 5
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's Books is 623-6251.

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r more information,
the employment hot-
at 707-441-3523 or visit
v.fs.usda.gov/main/
/about-forest/jobs.

NEWS BRIEFS

Public input sought on local hazard mitigation

Trinity County is in the process of drafting a Local Hazard Mitigation Plan and is seeking public input for creating the draft report. A public meeting is scheduled for 6 to 8 p.m. Thursday, Jan. 16, at the Weaverville Fire Hall.

Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

The meeting will include a brief presentation on hazard mitigation planning followed by a discussion. All Trinity County residents are encouraged to attend and share their knowledge of past disasters, how the disasters affected their communities, and input on how to mitigate for future possible risks. Maps of past disasters and currently known risks will be available for review and input.

When completed this plan will provide county residents, local government, special districts and health and human services with a clear understanding of local risks caused by natural and human hazards, and plans for reducing or eliminating long-term risks and their effects on people and property caused by those hazards.

For more information contact Donna at the Trinity County Resource Conservation District, 623-6004.

Community Foundation grants available

Forestry Collaborative meeting Friday

The Trinity Collaborative will meet from 10 a.m. to 4 p.m. Friday, Jan. 17, at the Veterans Memorial Hall, Weaverville.

A Forestry Group session will be held from 10 a.m. to 1:30 p.m., and includes a field trip (wear appropriate clothing). After lunch, at 2 p.m., will be general business and reports. Presentations and discussions begin at 2:45 p.m.

Grant proposals being accepted now

The Community Foundation is now accepting grant proposals for several competitive grant making funds.

Grants from The McConnell Fund will be awarded in the spring and fall to Modoc, Shasta, Siskiyou, Tehama and Trinity county organizations in the areas of arts and culture, children, youth and education, community vitality, environment, health care, recreation, and social services.

Grants primarily fund the purchase of equipment or building-related projects. Grant opportunities are made for small and large projects in each county. All grant requests for the spring cycle must be postmarked by or received at the Community

Local Hazard Mitigation Planning

What is it?

Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

Why Create a Local Hazard Mitigation Plan?

Protect our communities

In the event of

- Natural disasters such as wildfire, earthquakes, floods, etc.
- Human-caused hazards such as accidents involving transport of hazardous materials, epidemics, etc.

Every plan is different and based on community values

To maintain federal grant eligibility and disaster emergency assistance, the federal Disaster Mitigation Act of 2000 (DMA) states that:

> local governments must develop a plan to address disasters and provide measures to minimize or prevent the costs and losses from a disaster.

Local Plan Goals must be linked to State Hazard Mitigation Plan Goals:

- Significantly reduce life loss and injuries
- Minimize damage to structures and property, as well as disruption of essential services and human activities
- Protect the environment
- Promote hazard mitigation as an integrated public policy

Draft of goals and objectives available at information table.

Hazard ID and Risk Assessment

(mapping, gathering information)

- Input from community – what hazards do you know about?
- Can you locate them on the maps?
- Did something happen during the last fire that gave you pause for thought?
- Can be a problem with a particular part of a road, a communications failure, ice damage from a major storm...

Gather Information, Then...

- Analyze the hazards' impact on the community and create a summary of vulnerability

- Create a description of the type, location and extent of all hazards that can affect the county (Profiles)

Review Hazards for:

- Probability: How likely it is that the hazard will impact the area?
- Magnitude: How severe is it likely to be?
- Where are hazards likely to affect the community?
- Types of factors that can increase or decrease severity: topography, soil characteristics and saturation, fuel loads, presence of development in hazard areas, and presence of hazardous materials.

Also Review:

- Previous hazards and the probability of future ones
- Existing plans such as the Community Wildfire Protection Plan, Safety Element, Trinity County General Plan, etc.

List of previously declared disasters located on information table.

Create mitigation strategy

- Estimate cost/benefit: will the county save money by mitigation?
- Analyze a comprehensive range of specific mitigation actions and projects to reduce the effects of hazards.
- Identify funding sources for mitigation
- Create an action plan
- Open for public comment and review
- Adopt as part of Trinity County Safety Element

Your Input is Important!

- Review Maps
- Review Past Disasters
- Write comments on sheets provided, for example:
  - Did they think about re-routing traffic?
  - Did you know of a road that, if improved, could help in evacuations?
  - Do you know “ham radio” operators who are not part of the existing group?
  - Do you have ideas on how to make communications work more smoothly?

Questions?

Presented by TCRCD
for Trinity County

1-16-2014 LHMP Public Meeting

Please sign in

Name	Agency if applicable	Miles traveled
Scott Alvord	WFD	3
Ernest Curran	WFD	60 Feet
Henry Boorman	WFD	2
Frank Moore	HYMVFD	100
Karl Foster	Hayfork	60

Talking points LHMP Public Planning Meeting

In the event of a major disaster:

- interest of the federal government to ensure that local governments have made efforts to minimize the impacts of disasters.
- Maintain federal grant eligibility and disaster emergency assistance, the federal Disaster Mitigation Act of 2000 (DMA) states that local governments must develop a plan to address disasters and provide measures to minimize or prevent the costs and losses from a disaster.
- natural hazards such as wildfire, earthquakes, floods, etc., or by human caused hazards such as accidents involving transport of hazardous materials, epidemics, etc.

Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

Must be linked to State Hazard Mitigation Plan Goals:

1. Significantly reduce life loss and injuries
2. Minimize damage to structures and property, as well as disruption of essential services and human activities
3. Protect the environment
4. Promote hazard mitigation as an integrated public policy

Based on the requirements set forth by FEMA, the Local Hazard Mitigation Plan (LHMP) increases the scope of the Safety Element by

- **Planning Process**
    - documenting the process itself
    - public participation in the planning process,
    - ***Review and incorporation of existing plans, studies, reports and technical information***

- presenting the opportunity to jurisdictions (such as local special districts) to prioritize their own hazards to be mitigated

- **Hazard ID and Risk Assessment (Mapping, data gathering) Safety Element gives us a jump start on this section**
  - Hazards' impact on the community, summary of vulnerability
  - Description of type, location and extent of all hazards that can affect each jurisdiction (Profiles)
    - Probability: How likely it is that the hazard will impact the area
    - Magnitude: How sever is it likely to be
    - Where hazards are likely to effect the community
    - Types of factors that can increase or decrease severity: topography, soil characteristics and saturation, fuel loads, presence of development in hazard areas, and presence of hazardous materials.
  - Previous hazards and the probability of future ones
  - Estimation of losses
  - NFIP – repetitive loss
- **Create mitigation strategy**
  - Review existing programs, policies, authority and ability to expand and improve.
  - estimate cost/benefit
  - analyzing a comprehensive range of specific mitigation actions and projects to reduce the effects of hazards,
  - Identifying funding sources for mitigation,
  - Action plan
- **Plan Adoption**

Trinity County RCD Sign-in Sheet

EVENT: Disaster Mitigation - Hyampom Community Meeting **DATE:** February 11, 2014 **LOCATION:** Hyampom Community Hall **HOURS**:7 to 8 pm

	Name (please print clearly)	Town of residence	email	Travel Time (round trip)
1	PAT McCaslin	HYAMPOM	patalindy@hughes.net	40 min
2	ROGER SMITH	"		5 min walk
3	JIM WEDDELL	"	BEYDMOSKY@AOL.COM	5 MIN.
4	MIKE & BENTHIEN	"		20 MIN
5	John Philon	"	None	15 min
6	Michael BYRD	"		5 MIN
7	LeeRoy Watkins	Hyampom	None	10 MIN
8	Ron HARRIS	HYAMPOM	RFHARRIS@WILDBLUE.NET	5 MIN
9	Malahki	Hyampom	Malahki@mac.com	5 min
10	RW Youngblood	Hyampom		15 min
11	Cindy Winter	Hyampom	cindywinter38@gmail	
12	FRANK MOORE	HYAMPOM	FGMOORE@GMAIL.COM	25 MIN
13	CAROL MINOR	HYAMPOM	CMINORBLUE@GMAIL	25 MIN
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Trinity County RCD Sign-in Sheet

EVENT: Disaster Mitigation - Hyampom Community Meeting **DATE:** February 12, 2014 **LOCATION:** Hyampom Community Hall **HOURS**:7 to 8 pm

	Name (please print clearly)	Town of residence	email	Travel Time (round trip)
1	Lynne M Weddell	Hyampom	cottnsew2@aol.com	
2	VICTORIA CANTER	Hyampom	victoriacanter@yahoo.com	
3	April Mauldin	Hyampom	eclecticculture@gmail.com	
4	Don Flasher	Hyampom	sssnkor@gmail.com	
5	Larry Winter	Hyampom		
6	Pat Mortensen	Hyampom	patmortenson68@gmail	
7	Laura Morrell	Hyampom		
8	Dave Heppberle	Hyampom	gardenhyampom@hotmail.com	
9	Nadine Innes	Hyampom	nadine-mk@hotmail.com	
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Verifying signature (facilitator) _____

LHMP Meeting February 21, 2014 MAD RIVER

Name	Agency, if applicable	miles traveled
~~Don Straw~~	SRS Citizen	3.0
RAY BUSHMAN	SR. CIT.	3.0
John Friedenbach	Humb. Bay Mun. Water Dist	45
Vivian Paniagua	PO Box 1012 Ruth ca 95526	20 one way
Roberta Russell		
Roseann Straw	Sr Citizen	3.0
Judy Graves		1.5
SANDY BECHTOLD		41
Carlene Richardson	Kennethe.richardson@hotmail.com	2.0
Ken Richardson	~~kennethe rich~~	0.0
~~Rosalind Stevens~~		2.5
PATRICK ~~MEAGHER~~	TCUSD	
~~Julie Fulton~~		6.5
Louise Willburn		18.02
SANDY RASCHE	RUTHEOTT@YAHOO.COM	23. ONE WAY
Barbara Phelps		30.
Ben ~~Reed~~ Reed		21
Jean German		1

Hazard Mitigation Plan Steering Committee Meeting Agenda

Wednesday, January 28, 2015, 10:00 am – 12:00 pm
Trinity PUD Conference Room, Weaverville

Invited: Scott Alvord, Noreen Doyas, Karl Fisher, Ray Hurlburt, Frank Lynch, Frank Moore, Kathy Ratliff, Donna Rupp, Dave Loeffler - Hayfork Chief; David Herfindahl; Eric Palmer; Megan Blanchard; Reiling, Andy ; Stew Richter/Jim Yacoub USFS; Wendy Tyler; Wes Scribner; John Friedenbach; Paul Hauser; and Christine Zoppi

Cc: Grizz Adams, CalOES

Please sign-in

1. Introductions

2. Feedback on Chapter 3 Risk Assessments

3. Review and Create Mitigation Actions

A. Review the four priority hazards and their mitigation actions as addressed in the Safety Element. Agreement by Steering Committee required.

B. Create mitigation actions for Loss of Communications, Severe Weather, Drought, and Widespread Disease using worksheets and examples from FEMA.

4. Prioritize Mitigation Actions

To prioritize the mitigation actions, we'll use the STAPLEE prioritization criteria recommended by FEMA. STAPLEE is a tool used to assess the costs and benefits and overall feasibility of mitigation actions. STAPLEE stands for the following:

Social: Will the action be acceptable to the community? Could it have an unfair effect on a particular segment of the population?

Technical: Is the action technically feasible? Are there secondary impacts? Does it offer a long-term solution?

Administrative: Are there adequate staffing, funding, and maintenance capabilities to implement the project?

Political: Will there be adequate political and public support for the project?

Legal: Does the jurisdiction have the legal authority to implement the action?

Economic: Is the action cost-beneficial? Is there funding available? Will the action contribute to the local economy?

Environmental: Will there be negative environmental consequences from the action? Does it comply with environmental regulations? Is it consistent with community environmental goals?

Each SC member will vote on their top four mitigation actions using the STAPLEE tool to identify actions that are most likely to be implemented.

Other

Adjourn

Jan 28, 2015 LHMP meeting notes

No feedback on Chapter 3

Safety Element Mitigation Actions –

Wildfire

Address signage

Mapping – Not listed in SE. Need more detailed mapping that includes each address, water sources, bridges etc. It needs to be easily accessible in electronic form so all can share the information.

Responders are using notepads now

Need source of funding for regular updates

Currently Weaverville has been completed and there is funding for Lewiston, DC, JC & Hayfork.

Would need more funding to include Coffee Creek, Trinity Center and Down river.

Need funding for ground truthing maps and to continue project

Need to be able to communicate updates between county and agencies

Visiting resources need the maps, locals not as much

Need to have updated building information from building/planning departments shared with fire departments and agencies. But there are structures that are found after fires that were built without any permits.

Multi-hazard application: TCRCD contractor for County for GIS services, but is there a possibility of some kind of open sharing so all agencies can access without having to call for layers? A shared depository of GIS data and maps would reduce loss of life and infrastructure; reduce response time.

Flood

Garden gulch culvert by hospital floods.

Discussion of debris in stream and how it causes flooding.

Discussion of SE actions and how they can be implemented – Fed work listening to locals?

Dam inundation

Discussion of why maps are not available to public

Info. On Grass Valley Creek detailed because of a table top exercise that was completed

Could more table tops be planned to help public

Public education needs to be part of the mitigation plan

Exercise done for a landslide- created seiches that would over top the dam.

Earthquake

No additions

Drought

Discussion of drought in county: Not just a seasonal problem anymore. Unsustainable use by pot farmers. Water diversions affected supply of water at Burnt Ranch USFS station in 2014. That station opened hydrants for people so there wouldn't be damage to the hydrants. Not enough enforcement for illegal diversions. DFW working with DWR on water use and concerns over sediment and pollution – new inspection in Eel River watershed where inspected growers sites and offered suggestions to come into compliance. Wes said DWR/Regional Water Board is working on a permitting system. Andy said if drought continues and have to import water for electricity, drought surcharge will increase. In

Hyampom, people without water came to the fire station. Concerns over non-potable water being used for drinking water.
Weaverville CSD – supplied water to out of district boundaries because felt had to let people have water. Cannot say no. Some went to homes and some went to growers. Sold 600,000 gals to water tenders – 20 trucks with a few (4?) being for potable only.
Watersheds – mostly on USFS lands. Overcrowded forests and plantations take up surface and ground water supply – argument for changing forest management practices. Wildland fire could be devastating, lose canopy, increase sediment and runoff. Discussion of too many alders taking up too much water.

Drought meeting for County Steering Committee 2 pm – 3:30 at OES:
No agenda provided – update from agencies in the room and discussion. Only action item out of meeting was to create a flyer/bill insert. Let people know what they can do to conserve. Point them to resources available and state website, which has lots of information available. Judy Morris ran the meeting.

Wes/CSD- set up a water shortage policy with different tiers. He plans on more outreach this year. His users are already conscientious about use and conservation. Mill used lots for log decks and it was much earlier than last year as their pond went dry quickly. They usually ramp up use, but it changed overnight. He feels confident. Don't have staff for enforcement unless go to tier 3 alert. Questions about letting users know different tiers and what to expect. He said can communicate quickly with his customers.

Craig/Hayfork water – can't sell outside of district at this point in time. Would have to have their board approve change. Not feasible to raise dam because of costs and inundation of higher dam would flood high school. If a property owner wants to hook up to district, they do everything possible to make it happen. Reservoir is currently about 70% full.

Andy/CalFire: the drought extends the fire season and dry conditions are more prone to devastating fires.

Road department – use water on dirt roads to compact them. If don't use water, the roads will "blow away"

Megan/Public Health: Hospital has to have potable water available; Discussion of any sickness from people drinking non-treated last year. They have to rely on practitioners to report it and they may not realize that unsafe drinking water is a culprit.

Grizz Adams/CalOES – State counts on locals to provide information. Some funding available if providing direct assistance to people who do not have water. Modoc bought storage tanks for water for flushing, not drinking. County has to decide if they will provide services or if people are on their own. There is no funding available from state for individuals but USDA may have something for low income.

Peter/Env. Health – Well permits continue to come in. No slow down. Discussion on landlord last year getting potable water for tenants.

Mentioned that there is electronic reporting to the state for dry wells. Grizz said they need the information. We need to know what information is being collected so that if hear of a dried up well, will know what questions to ask. Grizz said he could get that information.

Frank L/Planning - Drought could prove to be an economic problem because can't approve new subdivision without adequate fire coverage/water sources. Wes wondered about a moratorium on building.

There is communication among districts and CalFire regarding use of water, but it is only in-district.

Eric P/OES – Has 500 water conservation kits to give to low income residents. Discussion on who should get them and how and when to distribute. Would be good education for people not conserving

water. Could hand out at Children's festival and Plant and Seed Exchange. Public Health volunteered to take some and get out to community members.

Donna/TCRCD – Working on mitigation plan for County. Need to know what can be done now to lessen the impact later. Discussion on non-residential uses of potable water if there are any ways to conserve their use. No real answer. Asked about gray water use – Peter said there are rules for using washing water. It can be done for certain landscape uses (directly to trees but not on lawns). Asked about County properties and watered lawns. Judy said they have let some go brown.

Karl/BOS – He would like to have the County draft a Water Policy, as now is the time to do it. County needs to define what is wasteful so enforcement will have some leverage.

Judy – WQCB has started a 3-year pilot program regarding cultivation use of water. Plan is ready but enforcement will be difficult.

Loss of Communications

Discussion of security at repeaters. Need something – easy to get to and vandalize. One suggestion was for cameras; another for fencing, gates, etc.

Ideas for mitigation actions: revamp existing repeater sites to meet current standards with weather proofing, security, cameras, design specs, etc. Would like to have County be leasee for Ironsides, but tribe wants it to be controlled by a non-profit. Lots of red tape involved.

Also look at all communications: keeping cell towers secure is of concern; requiring cell tower builders to provide full service in planning code; "COW" mobile repeaters for cell service are used during fires at camps. Some County employees use cell amplifiers to get more coverage.

Reverse 911 – County hasn't had luck with Verizon to include cell coverage and ping all cell phones in area. What to do when land lines are down.

211 – people can call in for information and get regular updates on emergencies.

Re-clone radios – getting frequency updates for emergency personnel so they are all able to reach each other.

Need to create some communications redundancies and have policies in place when other agencies come into town.

Narrow banding of radio frequencies has made problems worse.

After meeting – DR saw "Code Red" service that is web based but captures contact information prior to emergencies and then can broadcast out the info by phone or text.

Severe Weather

County doesn't own snow blower. It is a shared resource with Caltrans, but when we get heavy snow it is not enough. Need to work on communications before the event and have agencies prepared. Need to use social media more: FB, twitter, website.

Need to help residents be prepared – placement of ad in paper on how to prepare. Work with ARC to help residents be prepared. Need to be ready on individual basis with food and water. Need 48 hours' worth of supplies.

Redwood gas is the only station in town with a generator, but at least we have one now.

Trinity County RCD Sign-in Sheet

10am - Noon

EVENT: Mitigation Planning Steering Committee Meeting **DATE:** January 28, 2014 **LOCATION:** TPUD Conf. Room **HOURS:** 2 Hrs

	Name (please print clearly)	Agency/Organization	Position/Rank	Travel Hours (round trip)
1	Noreen Doyas	TCRCD	Notes	
2	Andy Lethbridge	TPUD		
3	Christine Zoppi	TCHHS - Public Health	Director	
4	KARL FISHER	TC BOS	Supervisor	1.5
5	FRANK MOORE	HYM VFD	CAPTAIN	3
6	Rob Barcellona	TCLS	Operations	-
7	Jim Yacoub	USFS	BC	.5
8	Andy Reiling	CAL FIRE	BC	3
9	Eric Palmer	T.C. Sheriff/OES	Director	0
10	Frank Lynch	Co. Planning	Principal Planner	0
11	WES SCRIBNER	WEAVERVILLE CSD	GEN. MANAGER	0
12				
13				
14				
15				
16				
17				
18				

Verifying signature (facilitator/instructor) _____

This packet contains materials for Creating Mitigation Actions

Mitigation Action Categories – document to spur ideas for each hazard based on general categories.

Drought
- FEMA Chapter on drought mitigation action examples
- Drought mitigation action worksheet

Loss of Communications
- FEMA Chapter on multi-hazards
- Loss of Communications mitigation action worksheet

Severe Weather
- FEMA Chapter on severe wind and weather
- Severe Weather mitigation action worksheet

Widespread Disease
- Widespread Disease mitigation action worksheet

Mitigation Action Categories

Following is a list of categories of mitigation actions, which originated from the National Flood Insurance Program's Community Rating System and the FEMA document "Mitigation Ideas, A Resource for Reducing Risk to Natural Hazards, January 2013", as well as definitions and examples for each category:

Local Planning and Regulations: This category includes prevention through administrative or regulatory actions or processes that influence the way land and buildings are developed and built; planning and analyzing data and identifying factors that affect the severity of the hazard; developing emergency plans; and monitoring for hazards, if applicable.

Example: For drought actions might include assessing community water sources, monitoring water supply, developing triggers for drought-related actions and developing secondary water sources.

Structure and Infrastructure Projects: This category includes property protection through actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them from the hazard area; and actions that involve the construction of structures to reduce the impact of a hazard.

Example: For drought actions might include developing new or upgrading existing water systems.

Natural resource protection: Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems.

Example: For drought actions might include incorporating drought tolerant practices into landscape ordinances.

Emergency services: Actions that protect people and property during and immediately after a disaster or hazard event.

Example: For drought actions might include importing bottled drinking water.

Public education and awareness: Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them.

Example: For drought actions might include encouraging citizens to take water saving measures; educating public and farmers on water conservation practices.

STAPLEE

The Disaster Mitigation Act regulations state that benefit-cost review is the primary method by which mitigation projects should be prioritized.

Criteria used to assist in evaluating the benefit-cost of a mitigation action included:

Does the action address hazards or areas with the highest risk?

Does the action protect lives?

Does the action protect infrastructure, community assets or critical facilities?

Does the action meet multiple objectives (Multiple Objective Management)?

What will the action cost?

What is the timing of available funding?

To prioritize the mitigation actions, the Steering Committee discussed the STAPLEE prioritization criteria recommended by FEMA. STAPLEE is a tool used to assess the costs and benefits and overall feasibility of mitigation actions. STAPLEE stands for the following:

Social: Will the action be acceptable to the community? Could it have an unfair effect on a particular segment of the population?

Technical: Is the action technically feasible? Are there secondary impacts? Does it offer a long-term solution?

Administrative: Are there adequate staffing, funding, and maintenance capabilities to implement the project?

Political: Will there be adequate political and public support for the project?

Legal: Does the jurisdiction have the legal authority to implement the action?

Economic: Is the action cost-beneficial? Is there funding available? Will the action contribute to the local economy?

Environmental: Will there be negative environmental consequences from the action? Does it comply with environmental regulations? Is it consistent with community environmental goals?

Each member used STAPLEE to identify his or her top three mitigation actions and then voted for these actions.

WIDESPREAD DISEASE - Mitigation Action Worksheet

The purpose of the Hazard Mitigation Plan is to develop and prioritize mitigation actions to reduce risk from future hazard events.
Instructions: After review of key issues for this hazard, please note ideas for actions and the category it would best cover.

Action	LP	SIP	NRP	ES	PEA

Mitigation Action Categories
LP = Local Planning and Regulations
SIP = Structure & Infrastructure Projects
NRP = Natural resource protection
ES = Emergency services
PEA = Public education and awareness

DROUGHT - Mitigation Action Worksheet

Instructions: After review of key issues for this hazard, please note ideas for actions and the category it would best cover.

Action	LP	SIP	NRP	ES	PEA

Mitigation Action Categories

LP = Local Planning and Regulations
SIP = Structure & Infrastructure Projects
NRP = Natural resource protection
ES = Emergency services
PEA = Public education and awareness

LOSS OF COMMUNICATIONS - Mitigation Action Worksheet

Instructions: After review of key issues for this hazard, please note ideas for actions and the category it would best cover.

Action	LP	SIP	NRP	ES	PEA

Mitigation Action Categories

LP = Local Planning and Regulations
SIP = Structure & Infrastructure Projects
NRP = Natural resource protection
ES = Emergency services
PEA = Public education and awareness

SEVERE WEATHER - Mitigation Action Worksheet

Instructions: After review of key issues for this hazard, please note ideas for actions and the category it would best cover.

Action	LP	SIP	NRP	ES	PEA

Mitigation Action Categories

LP = Local Planning and Regulations
SIP = Structure & Infrastructure Projects
NRP = Natural resource protection
ES = Emergency services
PEA = Public education and awareness

Prioritization Mitigation Action Worksheet

Instructions: Identify at least three priority mitigation actions from any of the hazard actions developed that meet this goal. Review the STAPLEE tool during prioritization.

Goal 1: Significantly reduce injuries and loss of life.

Goal 1 Objectives:

1.1 Strengthen early notification and warning systems.

1.2 Strengthen communications systems and address gaps.

1.3 Ensure there are safe places for people to stay and/or necessary supplies during an event.

1.4 Revise land development regulations, if needed.

1.5 Advance community resilience through preparation, adoption, and implementation of state, regional, and local hazard mitigation plans and projects.

Hazard and Action	S	T	A	P	L	E	E

STAPLEE
S = Social
T = Technical
A = Administrative
P = Political
L = Legal
E = Economic
E = Environmental

Prioritization Mitigation Action Worksheet

Instructions: Identify at least three priority mitigation actions from any of the hazard actions developed that meet this goal. Review the STAPLEE tool during prioritization.

Goal 2: Minimize damage to structures and property, as well as disruption of essential services and human activities.

Goal 2 Objectives:

2.1 Implement projects to protect critical and necessary assets in hazard risk areas.

2.2 Establish and maintain partnerships among all levels of government, private sector, and non-profit organizations that improve and implement methods to protect life and property.

2.3 Protect essential infrastructure.

Hazard and Action	S	T	A	P	L	E	E

STAPLEE
S = Social
T = Technical
A = Administrative
P = Political
L = Legal
E = Economic
E = Environmental

Prioritization Mitigation Action Worksheet

Instructions: Identify at least three priority mitigation actions from any of the hazard actions developed that meet this goal. Review the STAPLEE tool during prioritization.

Goal 3: Protect the environment.

Goal 3 Objectives:

3.1 Encourage hazard mitigation measures that promote and enhance natural processes and minimize adverse impacts on the ecosystem.

3.2 Implement wildfire mitigation and watershed protection strategies as identified in the Community Wildfire Protection Plan (CWPP).

Hazard and Action	S	T	A	P	L	E	E

STAPLEE
S = Social
T = Technical
A = Administrative
P = Political
L = Legal
E = Economic
E = Environmental

Prioritization Mitigation Action Worksheet

Instructions: Identify at least three priority mitigation actions from any of the hazard actions developed that meet this goal. Review the STAPLEE tool during prioritization.

Goal 4: Promote hazard mitigation as an integrated public policy and as a standard business practice.

Goal 4 Objectives:

4.1 Continually build linkages among hazard mitigation, disaster preparedness and recovery programs.

4.2 Use mandatory local general plan, zoning and subdivision requirements to help establish resilient and sustainable communities.

4.3 Promote and enhance outreach and education efforts by all agencies with hazard mitigation plans and programs to encourage engagement of stakeholder groups.

4.4 Coordinate efforts to consider climate change impacts in planning decisions.

Hazard and Action	S	T	A	P	L	E	E

STAPLEE
S = Social
T = Technical
A = Administrative
P = Political
L = Legal
E = Economic
E = Environmental

OFFICE OF THE SHERIFF
TRINITY COUNTY

101 Memorial Drive, P.O. Box 1228
Weaverville, CA 96093
(530) 623-2611

BRUCE HANEY, Sheriff/Coroner
KEN LANGSTON, Undersheriff

Trinity County Disaster Council

DRAFT Agenda

Wednesday November 20, 2013 at 2:00 PM
Emergency Operations Center, 61B Airport Road, Weaverville

1. **Welcome and introductions**
2. **Approval of Minutes**
3. **Incident Reviews**
4. **County Emergency Operations Plan:**
   a. Status update
   b. Annex & related plan updates
      (1). Communications (Sheriff's Office)
      (2). Medical & Health (Public Health) (Medical Countermeasures Plan)
      (3). Evacuation (Sheriff's Office/OES)
      (4). Domestic Animals (Sheriff's Office)
      (5). Shelter (Health & Human Services & Office of Education)
      (6). Law & Security (Sheriff's Office)
      (7). Transportation (Department of Transportation)
      (8). Recovery (Sheriff's Office/OES)
      (9). Damage Assessment (Department of Transportation)
      (10). Training & Exercise (Sheriff's Office/OES)
      (11). Other planning issues (All)
5. **Emergency Operations Center Update**
6. **Training/Exercise Opportunities & Needs**
7. **Emergency Preparedness Grant Updates**
8. **Other Updates**
9. **Other Business**
   a. Discussion: Trinity County Hazard Mitigation Plan development update
   b. Schedule meeting dates for 2014
10. **Next meeting**
11. **Adjourn**

Trinity County Hazard Mitigation Plan Introduction

As a member of the Trinity County Disaster Council, you all are aware of the need to plan and prepare for emergencies. Many of you have dedicated your careers to helping the public in times of need.

In the event of a major disaster, it is in the interest of the federal government to ensure that local governments have made efforts to minimize the impacts of disasters. To maintain federal grant eligibility and disaster emergency assistance, the federal Disaster Mitigation Act of 2000 (DMA) states that local governments must develop a plan to address disasters and provide measures to minimize or prevent the costs and losses from a disaster. A disaster can be caused by either natural hazards such as wildfire, earthquakes, floods, etc., or by human caused hazards such as accidents involving transport of hazardous materials, epidemics, etc.

Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

Some of you may be involved in drafting the Safety Element of the Trinity County General Plan. Based on the requirements set forth by FEMA, the Local Hazard Mitigation Plan (LHMP) increases the scope of the Safety Element by increasing the public participation in the planning process, documenting the process itself, analyzing a comprehensive range of specific mitigation actions and projects to reduce the effects of hazards, presenting the opportunity to jurisdictions (such as local special districts) to prioritize their own hazards to be mitigated, identifying funding sources for mitigation, along with several more detailed steps. A complete list of required sections is on a separate sheet titled "Local Hazard Mitigation Plan Sections".

The County already has many documents in place that can be used and/or referenced for the LHMP such as the Emergency Operations Plan, Community Wildfire Protection Plan, etc.

The key to a successful plan (i.e. a plan that is approved by FEMA) is broad based participation and thorough attention to detail.

In early October the TCRCD, as a sub-recipient of the grant set forth to draft the LHMP, will be holding our first public meeting on the LHMP. Prior to that meeting we would like to request volunteers to sit on LHMP committee.

Will you be able to help with this planning process?

Yes? – Name: _____email: _____

Best day and time for a regularly scheduled meeting - likely 2/month at first:

_____

Thank you,
Donna Rupp
Trinity County Resource Conservation District

OFFICE OF THE SHERIFF
TRINITY COUNTY

101 Memorial Drive, P.O. Box 1228
Weaverville, CA 96093
(530) 623-2611

BRUCE HANEY, Sheriff/Coroner
KEN LANGSTON, Undersheriff

Trinity County Disaster Council

DRAFT Agenda

Wednesday March 12, 2014 at 2:00 PM
Emergency Operations Center, 61B Airport Road, Weaverville

1. **Welcome and introductions**
2. **Approval of Minutes**
3. **Incident Reviews**
4. **County Emergency Operations Plan:**
   a. Status update
   b. Annex & related plan updates
      (1). Communications (Sheriff's Office)
      (2). Medical & Health (Public Health)
      (3). Evacuation (Sheriff's Office/OES)
      (4). Domestic Animals (Sheriff's Office)
      (5). Shelter (Health & Human Services & Office of Education)
      (6). Law & Security (Sheriff's Office)
      (7). Transportation (Department of Transportation)
      (8). Recovery (Sheriff's Office/OES)
      (9). Damage Assessment (Department of Transportation)
      (10). Training & Exercise (Sheriff's Office/OES)
      (11). Other planning issues (All)
5. **Emergency Operations Center Update**
6. **Training/Exercise Opportunities & Needs**
7. **Emergency Preparedness Grant Updates**
8. **Other Updates**
   a. **Medical and Health Plan Update (Megan Blanchard)**
   b. **Red Cross in Trinity County (Eric Kiltz)**
   c. **Hazard Mitigation Plan (Donna Rupp)**
9. **Other Business**
10. **Next meeting**
11. **Adjourn**

OFFICE OF THE SHERIFF
TRINITY COUNTY
101 Memorial Drive, P.O. Box 1228
Weaverville, CA 96093
(530) 623-2611

5047 - Eric P. OES

BRUCE HANEY, Sheriff/Coroner
KEN LANGSTON, Undersheriff

Trinity County Disaster Council

DRAFT Agenda

Wednesday May 14, 2014 at 2:00 PM
Emergency Operations Center, 61B Airport Road, Weaverville

1. **Welcome and introductions**
2. **Approval of Minutes**
3. **Incident Reviews** Economic Impact
   a. **2014 Drought Update (Eric Palmer)** - Trinity Knolls drilling test wells, need 2nd water source
4. **County Emergency Operations Plan:**
   a. Status update
   b. Annex & related plan updates
      (1). Communications (Sheriff's Office)
      (2). Medical & Health (Public Health)
      (3). Evacuation (Sheriff's Office/OES)
      (4). Domestic Animals (Sheriff's Office)
      (5). Shelter (Health & Human Services & Office of Education)
      (6). Law & Security (Sheriff's Office)
      (7). Transportation (Department of Transportation)
      (8). Recovery (Sheriff's Office/OES)
      (9). Damage Assessment (Department of Transportation)
      (10). Training & Exercise (Sheriff's Office/OES)
      (11). Other planning issues (All)

Grant app through drought emergency
- Lewiston Park H2O ~~Co.~~ for-profit company. 5-7 wells then draw from river
- Care & shelter plan in TC OEP
- Center for Domestic Preparedness

5. **Emergency Operations Center Update**
6. **Training/Exercise Opportunities & Needs**
7. **Emergency Preparedness Grant Updates**
8. **Other Updates**
   a. **Medical and Health Plan Update (Megan Blanchard)**
   b. **Mass Fatality Plan (Eric Palmer)**
9. **Other Business**
10. **Next meeting**
11. **Adjourn**

Wed Jan 28th 2pm OES Drought

OFFICE OF THE SHERIFF
TRINITY COUNTY
101 Memorial Drive, P.O. Box 1228
Weaverville, CA 96093
(530) 623-2611

BRUCE HANEY, Sheriff/Coroner
KEN LANGSTON, Undersheriff

Trinity County Disaster Council

Agenda

Wednesday January 07, 2015 at 3:00 PM
Emergency Operations Center, 61B Airport Road, Weaverville

1. **Welcome and introductions**
2. **Approval of Minutes**
3. **Incident Reviews** b. Eagle Fire@Cottonwood: used LAA c. Drought
   a. Weaverville Fire: **Sheriff Haney, Undersheriff Rist**
4. **County Emergency Operations Plan:**
   a. Status update
   b. Annex & related plan updates
      (1). Communications (Sheriff's Office)
      (2). Medical & Health (Public Health)
      (3). Evacuation (Sheriff's Office/OES)
      (4). Domestic Animals (Sheriff's Office)
      (5). Shelter (Health & Human Services & Office of Education)
      (6). Law & Security (Sheriff's Office)
      (7). Transportation (Department of Transportation)
      (8). Recovery (Sheriff's Office/OES)
      (9). Damage Assessment (Department of Transportation)
      (10). Training & Exercise (Sheriff's Office/OES)
      (11). Other planning issues (All)
5. **Emergency Operations Center Update: Eric Palmer**
6. **Training/Exercise Opportunities & Needs: Shooting for a Drill in May**
7. **Emergency Preparedness Grant Updates**
8. **Other Updates**
9. **Other Business**
   a. **Donna Rupp RCD Hazard Mitigation Plan**
10. **Next meeting** March 11 1:30
11. **Adjourn** 1:30

2nd Wednesday PM

d. Sandbag during Storm supplies not enough (mitigate)

3.9 million cost of fighting it per Andy.

working on Pickett Peak draft plan exercise in May trying to get something at Corrville

Eric left

Trinity County Fair Booth Promoting Hazard Mitigation Planning

FireChiefs_09092013.pdf

FireChief's 9/9/2013 6 pm

Trinity County Resource Conservation District

If you would like to be notified to review and comment on

Trinity County's Hazard Mitigation Draft Plan

please provide your contact information below:

	Name/ Organization	PLEASE PRINT	E-Mail
	email multi-jurisdictional info to Martin		
1.	MARTIN DOOLY	DOWNRIVER VFC	DOWNRIVERFIRE@GMAIL.COM
2.	Scott Alward	WEA	chief@wfelca.org
3.	DAVE LOEFFLER	HAYFORK FIRE	chief@hayforkfire.org
4.	Todd Wright	Hawkins Bar VFD	tdaws3232@hotmail.com
5.	Mel Deardorf	Lewiston	
6.	& Salyer (Dave Murphy)		
7.			
8.			
9.			
10.			
11.			
12.			

Fire Chief's
9/9/2013
6 pm

Trinity County
Resource Conservation District

If you would like to be notified to review and comment on

Trinity County's Hazard Mitigation Draft Plan

please provide your contact information below:

	Name/ Organization	PLEASE PRINT	E-Mail
1.	FRANK MOORE/CAROL MINOR	HYAMPOM FIRE	CMINORBLUE@GMAIL.COM FGMOORE@GMAIL.COM
2.	Brian Craig	Ketterpom - Zenia Fire	b.craig @ wildblue.net
3.	Mandy Newell	STAR Ambulance / So. Trin. Health	RNewell@sths clinic.org
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TRINITY COUNTY FIRE CHIEFS ASSOCIATION AGENDA FOR 3 February, 2014 - 1800 Hours

CALL TO ORDER/INTRODUCTIONS APPROVAL

OF MINUTES -January 6,201^^

Hazard Mitigation Plan Kelly Sheen/RCD
BuIIEx Demo Martin Dooly

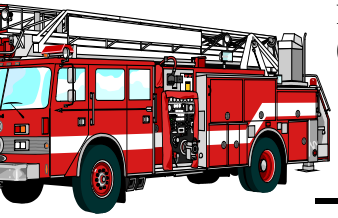
COMMITTEE REPORTS
Communications: Chief Alvord

HazMat: Chief Alvord

Training: Chief Alvord

REPORT: Secretary-Treasurer
REPORT: Cal-Fire REPORT: USFS
REPORT: Sheriff/OES REPORT:
OES Fire Coordinator REPORT:
TCLS REPORT: RCD REPORT:
NOR CAL EMS
REPORTS/DISCUSSION - Other

Adjourn - Next Meeting - 3, March 2014



Trinity County Fire Chief's Association

P.O. Box 1296, Weaverville, CA. 96093
(530)623-4226 FAX (530)623-5444

MEETING MINUTES
February 3 2013

Call to Order: The meeting was called to order by President David Loeffler at 1801 hours.

Personnel in Attendance:

Tim Spierch	PMT	Jerry Hlavac	HYF
Steve Scott	DOU	Justin Kerwick	JCF
Aaron Utterback	SHF	Stew Richter	SHF
Frank Moore	HYM	Kara Davis	Nor-Cal EMS
Carol Minor	HYM	Martin Dooly	DWR
Brian Craig	ZEN	Bill German	SOT
Cliff Brown	SOT	Rusty Mauk	CCV
Seth Toerpe	SOT/SRF	Drew Page	SRF
Robert Jackson	TC ARES	Donna Rupp	TC RCD
Steve Renten	TCC	Karl Fisher	TC BOS
David Murphy	SLV	Scott Alvord	WEA
Eric Palmer	TC OES	Kathy Ratliff	TCLS
David Loeffler	HYF	Bryan Ward	TC SO
Andy Reiling	SHU		

Approval of Minutes:
Motion by Spierch/Second by Craig carried to accept the January minutes as submitted.

Hazardous Mitigation Plan: (Kelly Sheen/Donna Rupp)
A Fire Severity Map was created by the Resource Conservation District to provide a tool to assist in planning. The map used land fire data and looked at stand height, canopy closure and vegetation type. Slope and weather condition were not included. A question arose as to why trees with brush underneath were ranked a low severity when grass land was ranked high. The total consumption of fuels is what the map ranked.
Other area maps have housing, infrastructure, land ownership, bridges and gates. These maps need to have personnel on the ground verify the content.
A Hazard Survey was handed out (available on line at trcd.net).The form takes about 10 minutes to fill out and will categorize those hazards Trinity County needs to consider.

Bullex Demonstration: (Martin Dooly)
A Bullex demonstration is available on February 17th. Bullex is a digital fire simulator training system. Downriver, Salyer and Post Mountain are interested in the demonstration. Chief Dooly will coordinate the demonstration.

Committee Reports:

Communication

The Oregon repeater has been repaired. The other repeaters will be worked on as problems are identified. Dave Loeffler is now the Association contact for radio problems that need to be forwarded to the Sheriffs Department.

Training

Hazardous Materials First Responder Operational (HMFRO) and Hazardous Materials FRO Decon will be scheduled this year in Trinity County. HMFRO will be scheduled for the first weekend in May.
TCLS will be sponsoring an EVOC class the first weekend in May.
Fire Control III at Shasta College April 5 or 6
Haz Mat drill with SCHMRT in October
Note: Tops Market contacted Scott Alvord and advised that they will not be sponsoring the BBQ fund raiser this year.

Treasurer's Report: (Andy Reiling)
There is $ 6045.83 in the Association checking account.

CAL FIRE:

- Donna McCain is the New SHU Administration Chief.
- 3 additional engines have been staffed in the Unit.

USFS:

Shasta Trinity

- The first round of seasonal workers will be picked up around the first of March.
- The snow survey had zero amount of snow at some of the survey points
- Aaron Utterback is detailed as a Battalion Chief for the Weaverville and Coffee Creek area.
- PAL's being used for wood cutting.

Six Rivers

- Engine and Patrol staffed as needed
- Lots of personnel movement on the Forest
- Re-assessing response on private lands. The goal is that all agencies will have their defined roles known before the 2014 fire season begins.

CALEMA Op Area: (Scott Alvord)

- Virtual Table top drill scheduled for Feb 20th, 0900 at the EOC. Drill will focus on the EOC response to a wildland fire impacting a community.
- OES Conference Call:
    - State of California has issued a Drought Proclamation.

    - State has added 25 engines to the Region.
    - Reviewing Red Card Qualifications
    - Crew Rotation after 14 days. Must be coordinated with OES Rep. to ensure payment
    - Looking at adding 16 more tones
- ERD passed around for updating
- Concept being worked on is a Reserve Firefighter crew(s) using RCD and the Watershed Center personnel

TC OES: (Bryan Ward)
Eric Palmer has accepted the TC OES position. The EOC will be staffed during the week days.

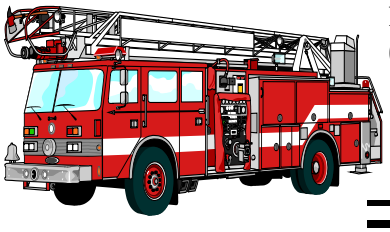
TCLS: (Kathy Ratliff)
- Skills sign–off February 22. Another skill sign-off day will be held in September.
- CPR Second Tuesday of each Month
- EMT Class has started
- New Health Officer for Trinity County. The Health Officer has issued an order for First Responder to either receive a flu shot or wear and respiratory mask for the flu season. This is a standing order for **Each** flu season until rescinded.

Nor-Cal EMS:
- February is heart awareness Month
- ALS SIDS protocols updated. Basic SID protocols to be updated at a later time.
- April 26th Pre-hospital Conference
- Moving this month's protocol meeting to the Blood Source Building

Next meeting
March 3, 2014

Adjourned
M/S/C Dooly/Murphy to shelve the meeting

Andy Reiling
Secretary-Treasurer



Trinity County Fire Chief's Association
P.O. Box 1296, Weaverville, CA. 96093
(530)623-4226 FAX (530)623-5444

MEETING MINUTES
April 7, 2014

Call to Order: The meeting was called to order by President Dave Loeffler at 1800 hours.

Personnel in Attendance:

Steve Scott	DOU	Tim Spiersch	PMT
Tim Caughlin	SHF	Brooke Entsminger	STAR
Rob Barcellona	TCLS	Kathy Ratliff	TCLS
Bill German	SOT	Rusty Mauk	CCV
Carol Minor	HYM	Frank Moore	HYM
Stew Richter	SHF	Steve Renten	TCC
Ken Rieke	TCC	Bruce Millerbis	HBV
Vince Freemantle	HBV	Dan Spiess	Nor Cal EMS
Karl Fisher	TC BOS	Mel Deardorff	LEW
Dave Murphy	SLV	Scott Alvord	WEA
Dave Loeffler	HYF	Jerry Hlavac	HYF
Rick Tippet	TC DOT	Andy Reiling	SHU
Justin Kerwick	JCF		

Approval of Minutes:
M/S/C to approve the minutes as submitted.

Hazard Mitigation Plan Update: (Donna Rupp)
A power point on the hazard mitigation survey was presented to the Association. Wildfire, Drought and Major Road closures were the top three hazard concerns of the survey takers. In isolated communities the fire department was the most likely place to get information during an incident. The Hazard Mitigation Plan will address potential incidents that could impact the county.

Encroachment Permits: (Rick Tippet)
Trinity County Department of Transportation is working on updating encroachment permits. Existing and draft proposals were supplied to the Association. Current encroachment designs may or may not allow unobstructed emergency vehicle ingress/egress depending on how they are constructed on the site. Association members will review documents submitted and reopen the discussion at the May meeting.

Committee Reports:

Communication: (Scott Alvord)

- Swiss Phone pager were purchased and programmed. The Minitor Pagers will be programmed by Mel Deardorff. 15 Bendix King Commander handheld and 2 mobile Kenwood TK790 have been purchased. A question arose if replacement batteries for the Carrville repeater where going to be purchased. Scott believed that the batteries did not meet the grant guide lines for funding.

TCLS needs 3 pagers and two Kenwood 1250 handheld radios
Hawkins Bar needs Bendix King and pagers amount to be determined
Douglas City looking for a mid-range cost handheld radios.
STAR needs a repeater

- State Radio Technicians put out an e-mail regarding the use and terms for CAL CORD. User of CAL CORD must fill out a request to use CAL CORD with the state. In addition the new programming will have a CTCSS tone on receive and transmit.

- Hawkins Bar is hearing the Sunday Pager test loud and clear but will not hear pages for an incident or receive broken transmissions. Dave Loeffler to forward concerns to Trinity Dispatch.

Training: (Scott Alvord and Kathy Ratliff)
TCLS is planning a medical **First Responder** class. There are three options for the class:
Option 1: Tuesday and Thursday evenings with a couple of Saturday classes. Class completed within a two month period
Option 2: A weeknight class, with one Saturday class. Class completed within a three month period in the spring
Option 3: A fall class
Option 1 was preferred with a start date in mid-May. Students need to have CPR completed before the class. CPR is available on the first Tuesday of the month at TCLS.

Preparedness Drill is scheduled for May 31 in Junction City and June 1st in Hayfork. The drill will include WUI scenario, Hoselays, Fire Shelter deployment and possible helicopter in briefing. Participants should plan on approximately 5 hours of drill time. The Cadre will need a commitment from departments of how many participants at the May meeting.

Live fire at Shasta College will be April 12th and 13th. Saturday will be for new members and Sunday will be more advanced. Areas to be addressed are Ventilation, Fire Behavior demonstration, Fire Attack, Emergency Procedures, Firefighter Survival and Ladder Rescue. Sunday will include fire attack roll-ups drills. Start time 0830 at the College training grounds.

Hazardous Materials First Responder at Hayfork May 3rd and 4th.

Treasurer's Report: (Andy Reiling)
There is $7000.83 in the Association Checking account. I will get the receipts out to those that paid and have historically requested receipts when I get back to my office. In addition the President will be provided a list of who is up to date on payments by next meeting.

CAL FIRE: (Andy Reiling)
Cal Fire is scheduled to be at peak staffing by May 19th. This date will change as rains occur. First station to open will be Fawn lodge with one engine on April 21st. Second station will be Hayfork schedule to be May 5 with a second engine at Fawnlodge.

There is a change in practice with the LE 5 Permits. These permits are for those burning a nonstandard pile. LE 5 Permits for nonstandard will be required as of May 1st. The USFS can only write these permits for Agriculture burns. A CAL FIRE representative will need to write NON agriculture permits with the input from USFS in Federal Direct Protection Areas. The Operating Plan between the State and USFS does not delegate the authority to the USFS to write non agriculture permits.

USFS: (Stew Richter)
May 5th SHF will start the summer hire. Mule Creeks well went dry for the first time.

CALEMA Op Area: (Scott Alvord)
Governor has authorized 5 type 3 engines for OES Region III. Weaverville has submitted an application for one of those engines. The Weaverville Fire Support Services is trying to revive the Fire Muster held during the 4th of July. Fliers where handed out soliciting potential teams.

TCLS: (Rob Barcellona)
- Another paramedic has resigned.
- ZOLO batteries are starting to fail. Cost is approximately $120 plus tax per battery. Remember the system is designed to have the pads connected. Disconnected pads cause a shorter battery life.
- Lewiston has two Community AED's one is at the Moose Lodge. Placement of the other to be determined.
- EMS week in May

RCD: (Donna Rupp)
- Community Forest Research lots on BLM land. A small burn is planned on Wednesday
- Person in charge of the re-vegetation project near the Whole Enchilada needs a place to get water to water the plants. Please contact RCCD if you know of a place.

Nor Cal EMS: (Dan Spiess)
Medical Conference April 26th. Registration fee is $45.00 for 7 Credits. Theme this year is Environmental Emergencies. 208 have already registered with a cap of 225.

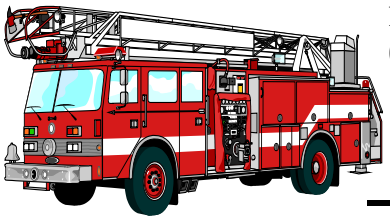
Open discussion:
Dave Loeffler
Next meeting Ron Coleman will give a presentation that was delivered to the Humboldt County Fire Chiefs.
Mel Deardorff
Dennis Jones lost his battle with cancer. Services will be Sunday at 3 in Lewiston.
Lewiston water has received 6 million dollar to fund up-grades to the water system.
Rusty Mauk

Jackie Driver lost her battle with cancer Saturday.
Annual Chili and Auction this coming Saturday April 12th

Next meeting

Adjourned

Andy Reiling
Secretary-Treasurer



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MEETING MINUTES
May 5, 2014

Call to Order: The meeting was called to order by President Tim Spiersch at 1802 hours.

Personnel in Attendance:

Mel Deardorff	LEW	Steve Scott	DOU
Scott Alvord	WEA	David Murphy	SLV
Donna Rupp	RCD	Todd Wright	HBV
Vince Freemantle	HBV	Bruce Millerbin	HBV
Karl Fisher	TC BOS	Ken Rieke	TCC
Stew Richter	SHF	Jim Yacoub	SHF
Eric Palmer	TC OES	Dan Spiess	Nor–Cal EMS
Martin Dooly	DWR	Rusty Mauk	CCV
Brian Craig	ZEN	Frank Moore	HYM
Gerald Hlavac	HYF	Carol Minor	HYM
Lynn Dillon	SOT	Bill German	SOT
Jean German	SOT	Justin Kerwick	JCF
Tim Spiersch	PMT	Andy Reiling	SHU
Rob Barcellona	TCLS		

Approval of Minutes:
M/S/C to approve the minutes of the April 7, meeting with the following corrections:

- Jackie Rae Travers passed away, minutes had Jackie Driver
- Add Donna Rupp to attendance list

Safety Element Review:
Letter to the Planning Department with the following questions:

- What are the standards for evacuation routes? Some of the evacuation routes on the map are not seasonally maintained. Do they need to be a different color?
- Does every community require an Emergency Evacuation route year around?

Committee Reports:

Communication:

- King hand held radios have a program error. Radio will be distributed after programming is fixed
- Salyer has a 50/50 grant to purchase a booster for downriver communications. Zenia added this same type of booster system. Coverage before the system was installed was about10%. After adding the system Zenia had 60% coverage. The system cost approximately $14,500.00.

M/S/C Motion made by Chief Alvord seconded by Chief Dooly to commit $1000.00 of Association funds to assist Salyer Fire with the 50% matching funds.

- Presently the pagers seem to work in day time but during the night time pages are questionable off the Ironsides repeater. Problem could be related to the charging system
- Jamie Bailey is still the Association contact for radio issues. Dave Loeffler is the Association contact.

Hazard Materials:
First Responder Hazmat to be offered at Salyer. TBA
Decon class will be the second week in September

Training:
The Shasta College training was attended by Salyer, Hayfork, Douglas City, and Weaverville Departments.
The Laptop used for county wide training is old. Frank Moore will take the computer home to evaluate whether the Association needs a new computer or rebuild the current computer.
TCLS will be starting a Medical First Responder class on June 3rd. Weaverville Fire has the current First Responder Book

Preparedness Exercise:
The following departments have committed there personnel and Equipment to the Annual Trinity County Preparedness exercise:
Douglas City Type III and Type VI engine 6 with personnel for Saturday
Junction City Type I engine with 5 personnel for Saturday
Southern Trinity 2 engines with 6 personnel for Sunday
Hyampom 1 engine with 3 personnel for Sunday
Hayfork 2 engines and a water tender for Sunday
Salyer 1 engine with three personnel for Saturday
Weaverville 3 engines with 11 personnel for Saturday
Weaverville 1 engine with 3 personnel for Sunday
Post Mountain 1 engine with 3 personnel for Sunday

There is a possibility of having a vehicle fire prop at the Sunday drill. Cost of the propane will be determined.

Encroachment Permits: (Rick Tippet)
Discussion continued around the purposed Encroachment Permit. The concern is the 50' radius and narrow lots. With the 50' radius one driveway would overlap the adjoining driveway. If the radius is lowered then engines would potentially move into oncoming traffic to enter the driveway. The 50" radius is designed for vehicles to remain in the traffic lanes which is needed when a fire is moving thru a neighborhood. Emergency equipment is moving in and citizens are trying to get out. The Association could not support a smaller radius.

Department of Transportation will be selling addition excess equipment. Contact Trinity County DOT for an equipment list.

Treasurer's Report: (Andy Reiling)
There is $7000.83 in the Association checking account

CAL FIRE:

- Fawnlodge and Hayfork are open. Weaverville will open on the 19th and stations fully staffed by June 2. The Hayfork and Weaverville engines will have augmented drought staffing adding an addition firefighter.
- Additional Burn permits are required for burning of piles over 4' x'4 or burning out of hours (6:00am to Noon). USFS can only the permits if they meet a certain criteria. If you have a resident contact you about a permit please have them contact the wildland fire agency for their area.
- The rates for the Annual Operating Plans are not out yet. The California Fire Assistance Agreement expired at the end of 2013 and an extension letter was agreed to which expires on Jun3 30, 2014. Discussions are being held at the state level to work out the details of the new agreement. I will have the departments I normally work with sign an agreement with last year's rates and update the agreements as soon as the new rates are published

USFS: (Stew Richter)

- Partial hire of temporary workers has occurred
- Engines fully staffed by May 18th
- Copter 506 on at the end of May
- Hayfork Bally, Bonanza King, Ironside lookouts staffed the week of the 12th
- Weaverville Bally will need some repairs

CALEMA Op Area: (Scott Alvord)
Region III will have an Operation meeting near the end of May. Keith Larkin the new Region III Operation Area coordinator.
Gloves were purposed for purchase With MADDY Emergency Medical Service Funds. Last year the funds were used for propane and maintenance expense for the repeaters.

Resource Conservation District:
RCD was awarded a grant thru Cal-Recycle to clean 15-20 sites. If you know of a site call Traci McFadden at 623-6004

TCLS:
TCLS is looking at hiring more EMT's and Paramedics

TC OES: (Eric Palmer)
Snow pack for the northern California is at 18% of normal. No significant rain fall predicted for the near future. There is a concern that wells will start running dry. Water Districts are concerned with water theft. Water hammer and not shutting the hydrant down all the way can add repair cost to the districts.

Nor Cal EMS:

- MCI manual 1 and 2 available on the website. Scheduled to have the Video available by the end of the month.
- Pre-hospital conference had 317 participates
- Exemplary award to Carol Minor and Frank Moore

Open discussion:
Rob Barcellona
Coffee Creek Fire had a field save.

Donna Rupp
South Fork Water Shed Grant to disseminate information and track wells that go dry during the drought.

Mel Deardorff
Lewiston wells are having difficulties keeping up. Mandatory boil water advisory is in placement.

Next meeting
June 2, 2014
Adjourned
1950

Andy Reiling
Secretary-Treasurer

TRINITY COUNTY FIRE CHIEFS ASSOCIATION
AGENDA FOR 5, January, 2015 - 1800 Hours

CALL TO ORDER/INTRODUCTIONS

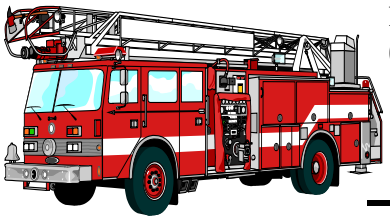
APPROVAL OF MINUTES –December 1, 2014

Donna Rupp: Station Information For LHMP
Chief Grey: Engine burn over view From August

COMMITTEE REPORTS
Communications: Chief Alvord
HazMat: Chief Alvord
Training: Chief Alvord,

REPORT: Board of Supervisors Karl - investigating SoFJ financial impact
REPORT: Secretary-Treasurer
REPORT: Cal-Fire
REPORT: USFS
REPORT: Sheriff/OES
REPORT: OES Fire Coordinator
REPORT: TCLS
REPORT: NOR CAL EMS
REPORT: RCD
REPORTS/DISCUSSION –

Adjourn – Next Meeting – 2, February, 2015



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MEETING MINUTES
January 5, 2015

Call to Order: The meeting was called to order by President Dave Loeffler at 1801 hours.

Personnel in Attendance:

Jerry Hlavac	HYF	Bill German	SOT
Jean German	STAR	Carol Minor	HYM
Tim Spierch	PMT	Martin Dooly	DVR
Rusty Mauk	CCV	Angela Jones	CCV
Stew Richter	SHF	Ben Newburn	SHF
Donna Rupp	TC RCD	Dan Spiess	Nor-Cal EMS
Karl Fisher	TC BOS	Robert Jackson	TC ARES
Eric Palmer	TC OES	Ken Hood	CAL OES
Flavia Dexheimer	JCF	Mel Deardorff	LEW
David Loeffler	HYF	Andy Reiling	SHU
Gerry Gray	RDN		

Approval of Minutes:
M/S/C to approve the December minutes as submitted.

Hazard Mitigation Plan: Donna Rupp
Donna is developing the Hazard Mitigation Plan for Trinity County. One of the elements to the Plan is estimating the replacement value of infrastructure. Departments were asked to provide an estimate to replace fire stations. There are still Departments that have not provided this information to Donna. Please get it to her ASAP if you have not provided this information.

Burn Over of Redding Engine 15: Gerry Gray
Chief Gray presented an overview of the burn over of RDN Engine 15 on the Eiler fire. Focus was on what issues can arise when an agency has an event. Some of the keys issues:

- Get correct information out as quickly as you can.
- Contact information for families
- Media attention
- Personnel physical and mental wellbeing
- Securing of equipment if to be used for evidence for an investigation
- The process for equipment replacement

Committee Reports:

Communication: Scott Alvord

- Unable to confirm the status of repairs on Picket Peak.
- The goal is to have Command Net installed in the Dispatch console
- If grant funds cannot be used, be prepared to provide your Departments radio needs
- No new information on Ironsides
- Salyer could not hear pager test on Sunday. Downriver could hear off Ironside during Pager test.

Hazard Materials:

No report

Training: Sean Campbell Arcata Fire

Sean is part of the California Training Officer Association. Sean represents Mendocino, Del Norte, Humboldt, and Trinity Counties. Some of his goals are to have a training calendar available on line. Get the department more involved with training. One item he is trying to have presented in the area is the "Burn Box" training. The CTOA meets 3-5 time per year and they are starting to use go-to meetings to limit travel time. The web site CTOA is caltraining.org

Scott Alvord

- Scott met with Mike Williams concerning the FSTI Training Syllabus. There are 41, 3 hour classes needed to complete the class portion of the training. Student do not need to go any further unless they want to get Certified as a Firefighter I. Some discussion is occurring concerning responding out of County and if those responding would be required to be certified.
- Receiving very little support from Shasta College, even thou Trinity County pays into the College
- April 25th and 26th are possible live fire training days at Shasta College drill site in Redding. Class will have the same training for both days

Dave Loeffler

CAPSTONE testing (needed to be certified as a Firefighter I) is a written and manipulative test that will only be offer at a college.

Ken Hood

Be looking for an online survey being conducted by CAL OES. The survey will ask departments to log into the Survey Monkey site.

Board of Supervisor: Karl Fisher

The County has been asked if they would support the State of Jefferson. Supervisor Fisher is gathering information to present to the Board on the possible issues that may arise if the proposal goes thru. A brief discussion on the California Mutual Aide System and financial concerns occurred.

Treasurer's Report: (Andy Reiling)

There is $6240.38 in the Association checking account.

CAL FIRE:

- The Fawnlodge station is being rebuilt. Trees are being removed and transported to Trinity River Camp (under a Timber Harvest Plan). The station will reopen after construction is complete, which is schedule for 2016.
- CAL FIRE is looking for a place to rent in the Douglas City, Lewiston Area until construction is complete.
- If you need the Weaverville CAL FIRE engines assistance, you will need to order the engine thru Trinity Control. Trinity Control will need to contact Redding ECC. Personnel monitor the radio during the day and will respond to Traffic Collisions and Fires in Douglas City, Lewiston, Junction City and Weaverville areas. During the night they will respond on the Weaverville page to the above incidents. (Currently the page is not functioning at the CAL FIRE station may take a couple of weeks to repair).

USFS: Ben Newburn

- Light fire season for the Shasta Trinity Unit
- Scheduled to have the same staffing next year
- Working on possibly bringing back the rappel program for H506. It is still a couple years out if it occurs. This would add more personnel to the helicopter
- All permanent fire positions have been filled on the TRMU. There are some openings on the SFMU
- BC's will be contacting departments concerning modifications to the Operating Plans

CALEMA Op Area: (Scott Alvord)

- 5 type III engines to Region III , to be allocated in the spring
- California Fire Resource Reporting System needs to have departments input there information. Information is tied to grant funding for training along with other projects. You can input your Departments information by going to Firescope.org

RCD: Donna Rupp
Applied for a grant to update the Community Wildfire Protection Plan (CWPP)

TC OES: (Eric Palmer)

- Some rain has occurred but it is not enough
- Disaster Council meets on Wednesday
- Sand bags are for emergency use only

Nor Cal EMS: Dan Spiess

- Medical Advisory Committee meets the first Tuesday of each month. You can join the meeting by dialing in at 0930. Dr. Rednik will present a case review at the end of the committee meeting. After the presentation it will be available online.

Open discussion:
Bill German:
P G&E Training in Southern Trinity March 7th

Next meeting
February 2, 2015
Adjourned
2023
Andy Reiling
Secretary-Treasurer

Minutes
September 26, 2013
7:00 p.m.
TCRCD

Welcome & Introductions: Alex Cousins led introductions on behalf of Jesse Cox. We had 10 attendees.

Trinity County Collaborative Update

Alex Cousins described collaborative's efforts. They are meeting 1/month on 3rd Fridays alternating between Weaverville and Hayfork. Meetings regularly have 50 attendees. The last meeting was on September 20. They developed and agreed upon a collaborative learning process – a structure for how to look at projects and learn from the projects and use that information to build the next two steps (collaborative planning and collaborative assessment). They have been conducting periodic tours of projects and are looking at Down River area for the next tour. Discussion on how best to link fire safe council with collaborative without being redundant. Group sees FSC as a resource to be consulted and it will be role of FSC members, who also are on the collaborative to make sure this linkage is kept intact. Stafford Fire rehabilitation would be another good site to visit.

Stafford Fire

K Boucher (South Fork Management Unit) provided update. The logging is underway and Ken is looking forward to the other restoration opportunities that will come after the logging is completed.

Local Hazard Mitigation Planning Project

Donna Rupp (RCD) provided an overview of this project, which is just getting started and will build on the safety element and CWPP, but will look to more specifics on how to mitigate potential hazards before they occur. It will be a countywide plan, but all special districts can play an active part in the planning (and include specific mitigation measures). She is looking for folks to volunteer to be on the committee that develops the pieces of this plan, with a strong emphasis on public input.

Weaverville Community Forest Oak Woodland Restoration Project

Ryan Desantis introduced himself to the group. He is the UCCE Forestry Advisor for Shasta, Siskiyou and Trinity Counties. He used a PowerPoint presentation to describe the project – restoration of a small (< 3 acre) stand of Oregon White Oak in the Weaverville Community Forest (WCF) that has had the conifers removed as a first step towards restoration. UCCE, RCD, BLM, Kenneth Baldwin & Mark Lancaster have designed a plan to do some thinning and some prescribed fire and to monitor effects (no treatment at all; oak thinning & prescribed fire; just oak thinning and just prescribed fire). There are a lot of oak stands in the WCF that will benefit for

learning more about their restoration. Lara Graham (USFS- Weaverville) indicated that the USFS has a prescribed fire they want to implement this winter and it might also make a good candidate for monitoring. It is the Five-cent Gulch Prescribed Fire. Lara and Ryan will try to get together to look at it.

Dead Fuel Loading (concentrations) Analysis and Mapping

Marie Buell (Watershed Research & Training Center) provided an overview of this project, which grew out of the CWPP and Safety Element Update. It is an attempt to look at concentrations of fuel as they "evolve" in areas that have been subjected to wildfire to help prioritize projects, especially in the Wildland Urban Interface. Marie went over the data sets and analysis that they have been doing. Like most efforts of this type, it is a "work in progress".

Project Updates:

RCD (Alex Cousins): Crew is working on a stewardship project with Trinity River Mill in the Ruth area (Beaver Slide Project) and will finish out the season on this project. RCD has continued to work with Trinity River Conservation Camp crews on projects in the Musser Hill and Browns area (Weaverville Community Forest). The next community project will be Burnt Ranch with CA FSC grant funds. They did a little community chipping earlier in September, but the bulk of the project will be implemented next spring. RCD submitted 1 application to the CA Fire Safe Council (CAFSC) in a partnership with CalTrans to expand roadside shaded fuel breaks along Highways 3 & 299 going out of Weaverville.

Hyampom FSC (Carol Minor): They have been partnering with the WRTC. They have finished the Title III project and they have submitted a proposal to the CA Fire Safe Council that would treat about 15 properties for defensible space.

South Fork Management Unit (Ken Boucher): Already talked about Stafford Fire, which is ongoing. They have a number of projects lined up for this fall/winter, including broadcast burning in Beegum and treating Kellogg piles (55 piles done by WRTC) and burning older piles in the Wallow Fire. The group agreed that the Wallow Fire might make a good collaborative learning field trip for the Trinity County Collaborative. Ken and Alex will get together.

Watershed Research & Training Center (Marie Buell): Crews finished work in Hyampom (Title III) and worked with Hyampom FSC to put together a proposal to CA FSC Clearinghouse. They are working on their 3rd burn plan. This one will be for prescribed fire on Bar 717 Ranch, and they also hope to get more burning done in the Big Creek area.

Trinity River Management Unit (Lara Graham): They are having a community meeting on October 8 (7-9 PM) at the Weaverville Fire Hall to present two prescribed fires – the Five-cent Gulch and Bluebird Mine burns. The "China Flat" project is about done. Alex and Lara described the evolution of this project. It was a part of the "Browns Timber Sale", but pulled out, because of concerns about road-building in unstable geology. It then became a hand-work project, but the NEPA didn't account for pulling the material out of the woods to be accessible for firewood, so additional hand labor has been needed to treat the cut fuels.

University of California Cooperative Extension (Ryan Desantis): Ryan has been working on a lot of grant applications to continue Fire Safe Homeowner workshops like the one that was done in Weaverville last June. He'd like to get funds to do one in Hayfork. Also he let folks know that there is a really interesting conference on October 10 in Sacramento. It is the "Working for Conservation Conference". Ryan will send the notice to Frost and he'll get it emailed out to FSC list.

BLM (John Basulto): BLM and RCD are shifting the initial phase of treatments in the Grass Valley Creek Stewardship area to a 1,000-acre programmatic assessment to help the project compete for a "healthy lands grant". They also are continuing to work on the Ewing Reservoir project and in the Weaverville Community Forest, and will likely add the Oak Restoration plots onto the 100 acres of planned burning.

RAC (Frost): A 1-year extension to Secure Rural Schools Act was passed by the US House of Representatives last week. It is very similar to a Senate bill the passed earlier. Frost has sent an email to USFS to get more details and to begin a dialogue about next steps. Folks will recollect that the Trinity County Title II took a 62% hit last spring due to sequestration and his goal is to not see that happen again. One approach could be for the RAC to move on the prioritized list of projects that were left unfunded last spring. The unfunded included the fuels reduction projects prioritized by the RAC.

Meeting ended 8:42 PM.

Next meeting will be
7:00 PM
October 24, 2013
TCRCD Conference Room

Minutes
November 21, 2013
7:00 p.m.
TCRCD

Welcome & Introductions: Jesse Cox led introductions. We had 9 attendees.

Overview of Prescribed Fires 2013

We had a good fall season for prescribed fire projects that included a number of partners. The Five-cent Gulch burn was about 70 acres on USFS with another 6 acres on adjacent private lands (Highland-Snyder Trust) and included Weaverville Fire Department. Big Creek, CalFire and Watershed Center got about 40 acres treated. An excellent training occurred through the Northern CA Prescribed Fire Training Exchange on Bar 717 Ranch (over 125 acres treated). BLM had a successful prescribed fire earlier in the fall in Grass Valley Creek watershed.

Other items of note – the Watershed Center and USFS have a Master Agreement for prescribed fire management projects and in Lower trinity the Hazel management Prescribed Fire Project is moving along nicely, for cultural resource management of hazel.

We might want to organize some public field tours in the spring to show-off some of these projects.

It also was noted that the Prescribed Fire Council would be having their next meeting December 5 & 6 in Redding, with a focus on oak woodland restoration.

2013 Fire Season Recap

It wasn't a particularly active fire season in Trinity County. The Corral Fire on the edge of Hoopa, being the major fire this past summer.

Fuel Hazard Mapping for Safety Element

Nick Goulette noted that the project is done with regards to the Safety Element and now we need to look at how else it might be useful.

CWPP Project Implementation & Status Update

Our CWPP is now about 3 year sold and it is time to update the data and maps showing what projects have been implemented. Kelly Sheen (RCD) will be getting in touch with project folks to begin that process. These data, also will be used in the Local hazard Mitigation Plan.

Trinity County Collaborative Update

The collaborative is moving along. The forestry group still seems to be sorting out its issues and developing priorities. In the long run this countywide effort should link to the Community Capacity & Land Stewardship assessment process that the Watershed Center is developing to get a better handle on a collaborative assessment resource needs on a landscape scale.

Secure Rural Schools (Title II and Title III)

There was a 1-year extension, but still don't have all of the details. Board of Supervisors will be asked to decide the formula for allocating the funds that come to Trinity County in all three "pots" (roads/schools; Title II and Title III). Frost, as RAC chair, has had some preliminary discussions with County CAO to "stay the course". It likely will start moving in mid-December. So FSC should be thinking about priorities for fuels reduction projects that are NEPA ready, recognizing that none were funded through the RAC last year due to the sequestration impacts on Title II (>60% reduction in available funds).

Local Hazard Mitigation Planning Project

Donna Rupp (RCD) provided an update of this project, which is well underway now. Again, the goal will be to build on the safety element and CWPP, but will look to more specifics on how to mitigate potential hazards before they occur. It will be a countywide plan and there is a steering committee that will lead the effort, with a strong emphasis on public input.

Project Updates:

Stafford Fire

K Boucher (South Fork Management Unit) provided update with a map of progress. A lot has gotten done and his last visit to the site gave him encouragement that it is looking good. Maybe a spring field trip will be in order. The group was reminded that the salvage is just the first step. The restoration work that the FSC included in its letter of support is a critical next step.

South Fork Management Unit (Ken Boucher): Already talked about Stafford Fire, which is ongoing. They have a number of projects lined up for this fall/winter, including broadcast burning in Beegum and treating Kellogg piles (getting a masticator). The Westside Plantation Thin should have an EA out this spring. The Hyampom Community Protection project is gaining traction. They should start the NEPA in the fall and wit will involve both SFMU and Trinity River Management Unit, and they are still working on chipping in Hyampom.

Trinity River Management Unit (Lara Graham): Burnt Ranch Fire Resiliency Project is moving along. There should be some public meetings in the new year; Jay Perkins is back working on it; the focus will be on roadside treatments and overall it could have a project size of about 8,000 acres to be analyzed. Pettijohn EIS is being litigated; Down River Community Protection Project is being re-developed to account for Prime Spotted Owl habitat; and they will keep working on pile burning as conditions allow.

Willow Creek Fire Safe Council (O'Hares): SWAP crews working on Scotch Broom and the FSC still has some neighborhood chipping going on. This will include Christmas tree chipping after the holidays.

Lower Trinity/Orleans District (Andrew Spain): OCFR Project has pile burning. One result of the Corral Fires this summer is that there now is a nice shaded fuel break on Lone Pine Ridge. It is about 15 miles long and will require maintenance in the next 5 years. Waterman Ridge project has a new writer/editor, which should revitalize that project. A Plantation Thin should start up on South Fork Road (A project in the CWPP) and CCC's are doing work on Friday Ridge (in Humboldt County). The "Roots & Shoots" cultural resources management project is being scoped and could involve about 300 acres.

Hyampom FSC (Carol Minor): Things are quiet in Hyampom since **t**hey have finished the Title III project. They have submitted a proposal to the CA Fire Safe Council that would treat about 15 properties for defensible space in partnership with Watershed Center, but haven't heard anything yet.

RCD (Frost): RCD submitted 1 application to the CA Fire Safe Council (CAFSC) in a partnership with CalTrans to expand roadside shaded fuel breaks along Highways 3 & 299 going out of Weaverville. Likewise no word. This roadside project does bring up the possibility that we some energy should be put back into the project to do similar roadside work on the USFS properties at the same time – it would be most cost-effective. One in particular is the USFS lands on the opposite side of Highway 3 from The Knolls (Trinity Center). L Graham indicated that she is very familiar with the project area – she was working on it before Pat Butler came to the TRMU) and she just had a conversation with a resident of that subdivision. Frost offered to help get things moving again.

The Firewise Application for Burnt Ranch was submitted this week. Hopefully that will get approved shortly and the Firewise renewals for all of the other communities will get submitted in early December.

Watershed Research & Training Center (Nick Goulette): Already covered their topics, but he did want to mention that they are interested in finding landowners in the North lake area that might be interested in some prescribed fire.

Meeting ended 9:15 PM. – Happy Holidays

Next meeting will be
7:00 PM
January 23, 2014
TCRCD Conference Room

Agenda

November 21, 2013
7:00 p.m.
TCRCD Conference Room

Welcome & Introductions

Overview of Prescribed Fires – Fall 2013 how they went & P/R
- **Northern CA Prescribed Fire Training Exchange**
- **Grass Valley Creek**
- **Five-cent Gulch**
- **Prescribed Fire Council Meeting – Redding December**

2013 Fire Season Recap

Fuel Hazard Mapping from Safety Element

CWPP Project Implementation & Status Update Process

Trinity County Collaborative

Community Capacity and Land Stewardship grant collaborative assessment process/CWPP and other FSC interests and expertise.

Secure Rural Schools (Title II & III) 1-year extension

Trinity County Local Hazard Mitigation Plan (Donna Rupp)

Project Updates (season recaps)
- **Stafford Fire**

Next Meeting December TBD

Agenda

January 23, 2014
7:00 p.m.
TCRCD Conference Room

Welcome & Introductions

Trinity County Collaborative
Landscape Assessment Project

Secure Rural Schools (Title II & III) Update on Timelines and funding

Trinity County Local Hazard Mitigation Plan (Donna Rupp)

Safety Element Status

Burnt Ranch All-Lands Pilot Project

Annual Fire Management Planning Coordination & Data Sharing

Spring Field Trips for Public

FEMA Virtual tabletop Exercise Training – Wildfire Focus

Project Updates
Stafford Fire

Next Meeting
February 27
7:00 PM
TCRCD Conference Room

Agenda

March 27, 2014
7:00 p.m.
TCRCD Conference Room

Welcome & Introductions

Secure Rural Schools (Title II & III) Update

Local Hazard Mitigation Plan Update

Safety Element Update

Trinity County Collaborative

Update on Potential Legislative Activity for 2014 (Fuels Treatment Round Table)

Public Education/Outreach
- **Spring Field Trips for Public**
- **National Wildfire Community Preparedness Day**
- **Annual Trinity Journal Insert**
- **Willow Creek Fire Safe Day**

Upcoming Workshops & Conferences
- **Northwest CA FSC Conference – May 16-17 (Mt Shasta)**
- **Prescribed Fire**

Project Updates
- **Stafford Fire**

Next Meeting
April 24
7:00 PM
TCRCD Conference Room or tour (?)

Trinity County
Local Hazard Mitigation Plan

Preliminary survey results

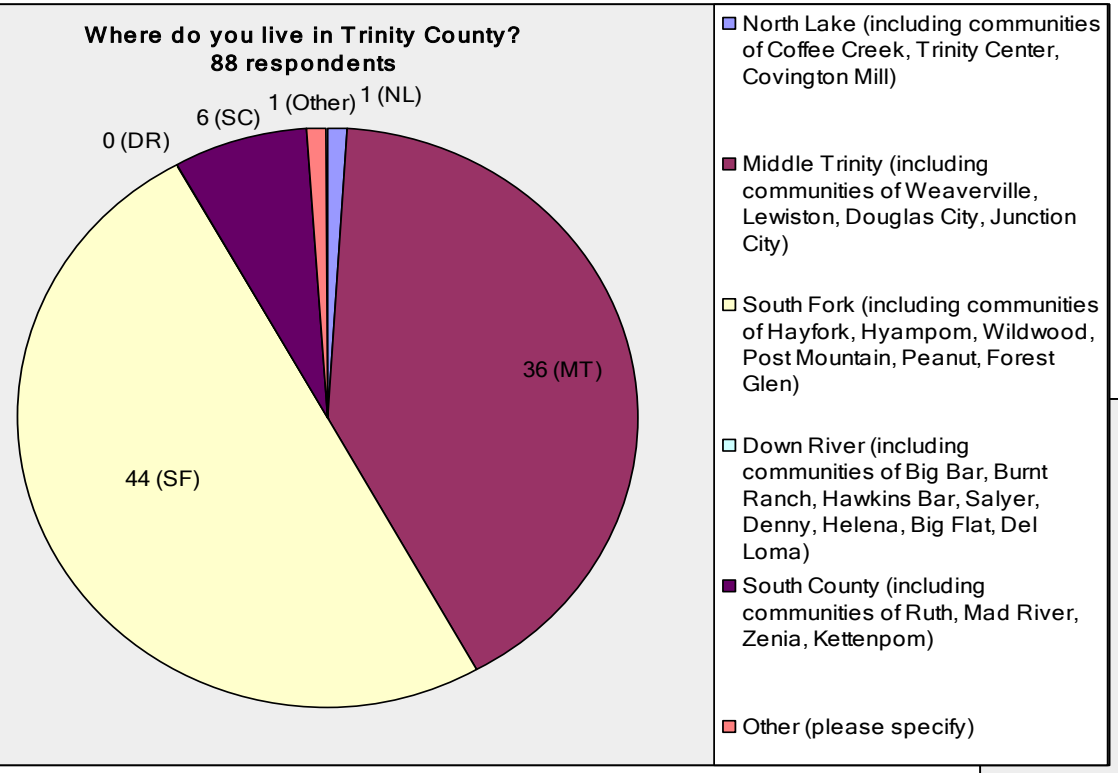
March 27, 2014

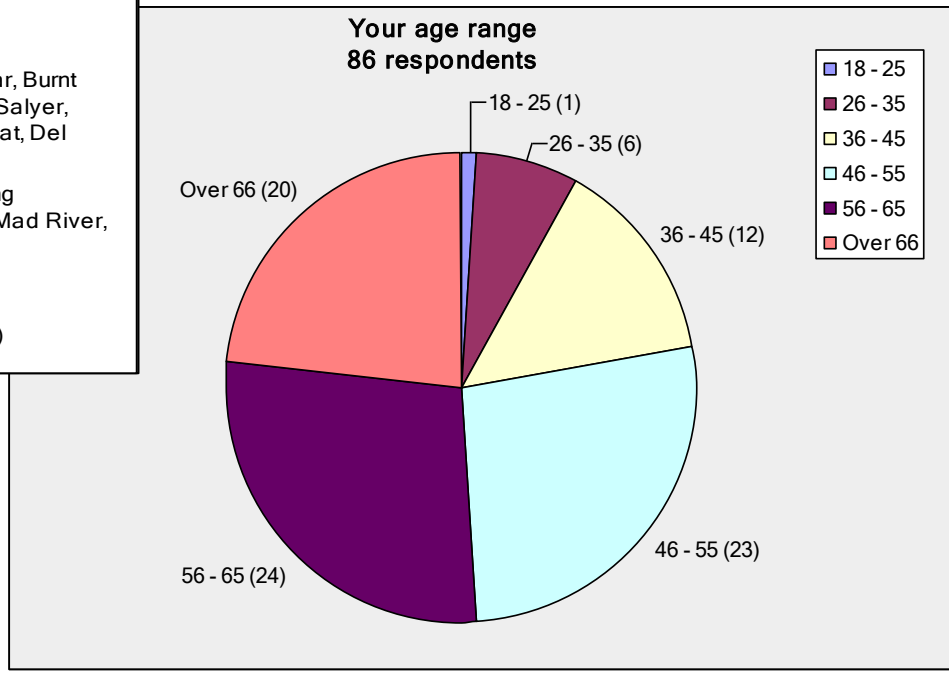
Presented to Trinity County Fire Safe Council

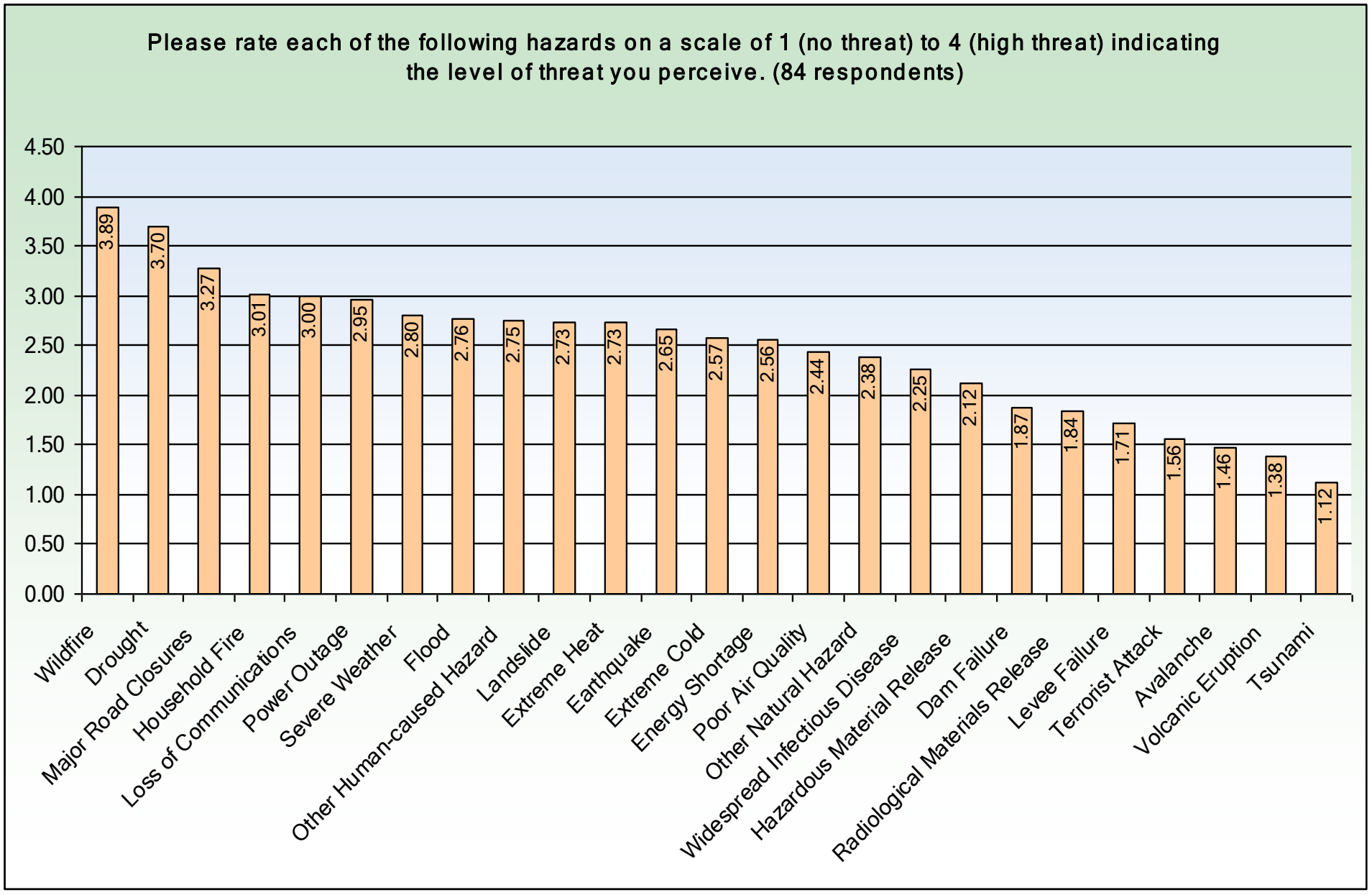
By

Donna Rupp, TCRCD

Survey Respondents






Please rate each of the following hazards on a scale of 1 (no threat) to 4 (high threat) indicating the level of threat you perceive. (84 respondents)
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3.89
3.70
3.27
3.01
3.00
2.95
2.80
2.76
2.75
2.73
2.73
2.65
2.57
2.56
2.44
2.38
2.25
2.12
1.87
1.84
1.71
1.56
1.46
1.38
1.12
Wildfire
Drought
Major Road Closures
Household Fire
Loss of Communications
Power Outage
Severe Weather
Flood
Other Human-caused Hazard
Landslide
Extreme Heat
Earthquake
Extreme Cold
Energy Shortage
Poor Air Quality
Other Natural Hazard
Widespread Infectious Disease
Hazardous Material Release
Dam Failure
Radiological Materials Release
Levee Failure
Terrorist Attack
Avalanche
Volcanic Eruption
Tsunami

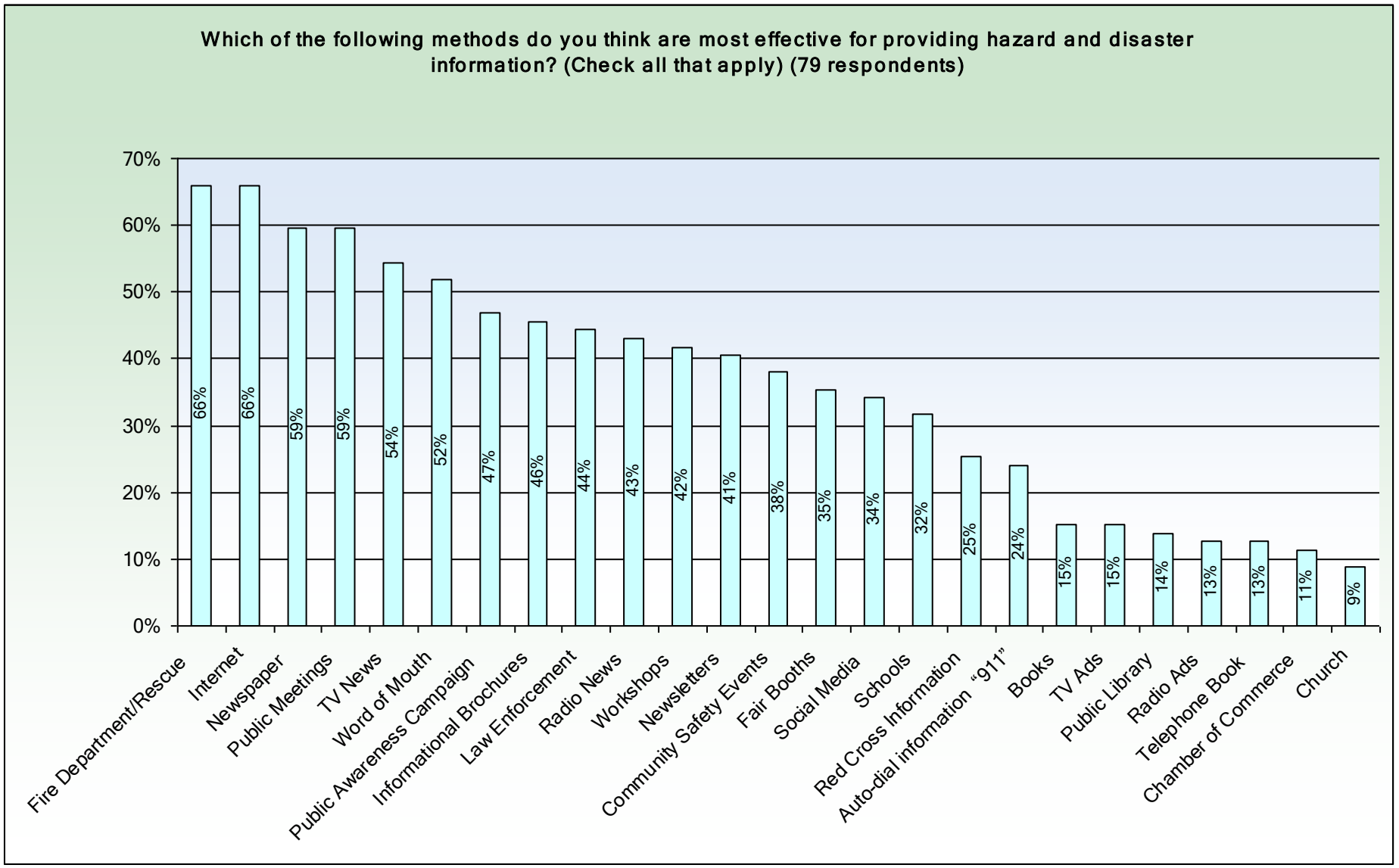
What is the worst hazard that you have experienced in Trinity County?

Of the 80 people who responded to this open-ended question, 58 (72.5%) mentioned **wild fire** in their responses.

Other answers included power outages and road closures due to weather or landslides, and floods.

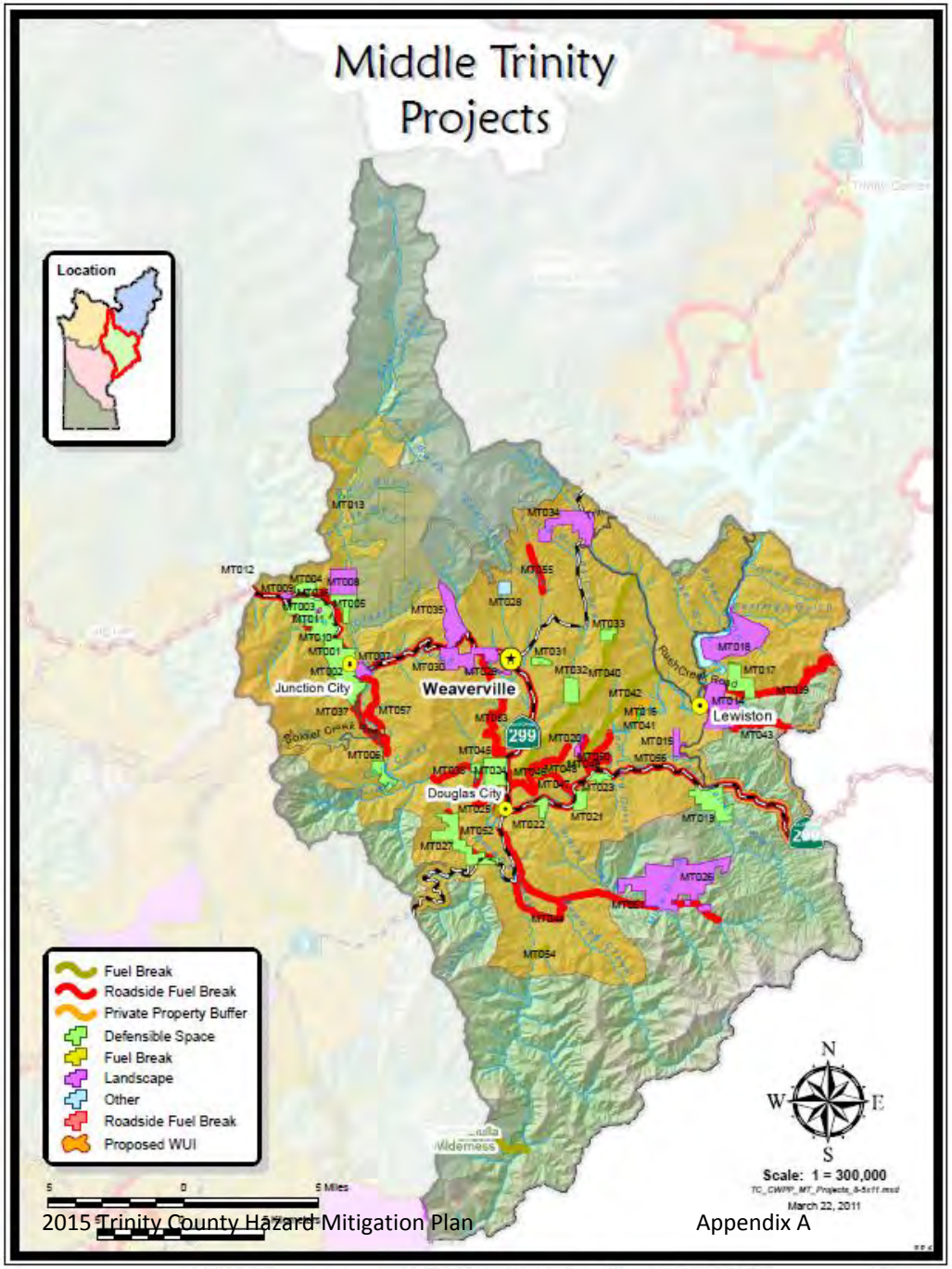
What do you consider to be the five worst case scenarios that could occur in Trinity County?

Of the 77 people who responded to this open-ended question, 74 (96%) mentioned **wild fire** in at least one of their five responses. Some mentioned multiple ways that fire could cause the worst case scenario (lack of water, loss of power, no egress, etc.)


Which of the following methods do you think are most effective for providing hazard and disaster information? (Check all that apply) (79 respondents)
70%
60%
50%
40%
30%
20%
10%
0%
66%
66%
59%
59%
54%
52%
47%
46%
44%
43%
42%
41%
38%
35%
34%
32%
25%
24%
15%
15%
14%
13%
13%
11%
9%
Fire Department/Rescue
Internet
Newspaper
Public Meetings
TV News
Word of Mouth
Public Awareness Campaign
Informational Brochures
Law Enforcement
Radio News
Workshops
Newsletters
Community Safety Events
Fair Booths
Social Media
Schools
Red Cross Information
Auto-dial information "911"
Books
TV Ads
Public Library
Radio Ads
Telephone Book
Chamber of Commerce
Church

Your Input is Critical!

- CWPP – excellent, well-thought-out document.
- Last revision approved over three years ago.
- Updates needed on priorities that have been completed, and any adaptations that have happened since 2010/11.



CWPP Review

Using the Middle Trinity as an example, the projects listed need to be marked off as completed since 2010.

This allows the Hazard Mitigation plan to be up to date with wild fire mitigation plans.

Mid Trinity Projects –Ranked based on their relationship to a previous burn and the Wildland Urban Interface (WUI) See page 24

RANK	Community	Project Type	Project Name	Project ID	Comment	Previous Burn Score	WUI Score	Ownership
16	Junction City	Landscape		MT009	Partially Burned Trees	4	4	PVT/BLM
16	Junction City	Other		MT012	Cultural Importance - Helena Town Site	4	4	PVT
16	Lewiston	Landscape		MT015	Heavy Fuels and Snags (Lowden Fire 2000)	4	4	BLM
16	Douglas City	Roadside Fuel Break	CO 335/337/338	MT044		4	4	Mixed
12	Weaverville	Landscape		MT035	Glennison Gap, Plantation Maintenance	3	4	Mixed
12	Weaverville	Landscape		MT030	Historic Fires Rd Side/Fuels Reduction	3	4	PVT
12	Junction City	Defensible Space		MT004	Scoth Broom also	3	4	PVT
12	Weaverville	Roadside Fuel Break	Hwy 299	MT056	Hwy 299	3	4	Mixed
8	Junction City	Landscape		MT007	Heavy Fuels - Junction City Park	2	4	TC

RANK	Community	Project Type	Project Name	Project ID	Comment	Previous Burn Score	WUI Score	Ownership
8	Junction City	Other		MT010	Invasive Weeds -Scotch Broom	2	4	PVT
8	Junction City	Defensible Space		MT005	Defensible Space Needed	2	4	PVT
8	Junction City	Defensible Space		MT001	Poor Access, Defensible Space, Unimproved Lots	2	4	PVT/BLM
8	Lewiston	Landscape		MT014	Brush Field	2	4	Mixed
8	Douglas City	Defensible Space		MT027		2	4	PVT
8	Douglas City	Roadside Fuel Break	B Bar K Road- CO 334	MT052		2	4	Mixed
8	Lewiston	Fuel Break	Brown Mtn	MT040		2	4	Mixed
8	Junction City	Roadside Fuel Break	CO 413/ 414/415	MT037		2	4	PVT
8	Junction City	Roadside Fuel Break	CO 419/420	MT036	Power House/Valdor Road	2	4	BLM/PVT

CWPP 2010 : VI. County-Wide Issues and Recommendations

1. Work to integrate fire management planning explicitly into the National Forest Management Act mandated planning process on the national forests and across jurisdictional boundaries to allow for landscape scale prioritization and implementation of pre-fire treatments. Agencies should also look at areas of concern based on their land use plans.

2. Immediate areas for coordination include:

   a. Linking the Six Rivers and Shasta-Trinity National Forests' Road Management Plans to ensure that roads critical for access in case of fire are being maintained. Further, encourage cooperation among all jurisdictions along any and all roadsides to reduce fuels;

   b. Coordinating Six Rivers National Forest and Shasta-Trinity National Forest Fire Management and Trinity Alps Wilderness Management Plans;

   c. Identify and publicize for each community safety zones in case of catastrophic fire. Per Andy Reiling: this is not accurate and should be removed. Does not want to have safety zones – wants people to leave. Need to identify and publish egress routes, staging areas and landing zones (LZ) 3/27/2014

   d. Coordination between fire prevention programs or personnel and land organizations, and local VFDs to address wild fire issues

3. Coordinate with staff on the Lower Trinity Ranger District, Six Rivers NF on fuels reduction treatments. Projects should take advantage of topographic features,

CWPP 2010 : VI. County-Wide Issues and Recommendations, con't.

4. Considerable expense has gone into plantations and which are neglected. Existing plantations are both important resources and, if untended, fire hazards. Consider proactive thinning and fuels reduction of plantations during their period of greatest vulnerability to fire.

5. Encourage the Shasta-Trinity National Forest to keep the water tenders and Fire Fighting equipment at local guard stations such as the Big Bar Guard Station and Hyampom Guard Station.
   They are not available now. Change to say: Encourage to maintain current level.
6. Continue to expand Volunteer Fire Departments capacities throughout the County.

7. Work with Volunteer Fire Departments to increase needed items such as fire protection equipment, community outreach tools, and firefighting water sources (and ensure access and maintain it.).

8. Ensure that the increased amount of fuel resulting from fire, windfall, insect and disease outbreaks, and other events, should be used as a factor to focus priority fuel treatments.

Additional Recommendations for Fire Safe Activities (CWPP 2010)

- General fuels reduction efforts, followed by shaded fuel break construction and maintenance, and stand and plantation thinning.
- Individual landowners to treat their own fuels and for neighborhood groups to work together to reduce fire hazard and emergency response problems were also stressed.
- Participants noted the importance of taking a landscape scale view of fire hazard and the importance of maintaining existing fuel breaks.
- Standing dead fuel exist on past burns and that fuels treatments in those areas should be considered, especially near communities. This issue was practically stressed in the South Fork Division.
- Maintain fuel breaks so that they can be used for future fires.

Project Suggestions (CWPP 2010)

- Implementing a system of strategic fuel breaks along ridges and roadsides for creating a more fire-safe community.

- Efforts be put towards connecting private roads to allow for more than one egress. Specific examples are Farmer Ranch Road and Barker Valley Road in Hayfork.

- Contact SPI in conjunction with the residents of the Barker Valley neighborhood to discuss possible burning operations on SPI land adjacent to that neighborhood. (This could potentially be done in conjunction with the Hayfork Neighborhood Protection Project that is being run by the WRTC.)

- Some bridges need signage to indicate their load capacity. After further discussion, it is suggested, where possible, a ford be rocked into the creek bed and heavy equipment be diverted to that crossing during a fire event limiting the stress on infrastructure and the potential for a bridge to fail cutting off access completely.

- While projects that are strategic are important, it's also important to adjust a project's ranking based on access, shared funding, diverse objectives, and not just hazard fuels.

How to proceed from here?

Volunteers needed to review CWPP

Trinity County Fire Safe Council
& Firewise Communities Program

Agenda

December 4, 2014
7:00 p.m.
TCRCD Conference Room

Welcome & Introductions – Jesse Cox

Report out on CAL FIRE concept proposals (SRA and GGRF) that folks have submitted
Update on likely CA Fire Safe Council solicitations: amt. and timing

CAL FIRE permitting for private land burning

Local Hazard Mitigation Plan – Wildfire Risk Assessment - Rupp

Safety Element Update – Frost

Trinity County Collaborative – Alex Cousins/Nick Goulette

Project Updates

Next Meeting
January 22, 2015

Donna Rupp

Trinity County Fire Safe Council
& Firewise Communities Program

December 4, 2014
TCRCD Conference Room
Please Sign In

Name	Address	Phone/email
1. JESSE COX		
2. Pat Frost		pfrost@tds.net
3. CAROL MINOR		cminorblue@gmail.com
4. Donna Rupp		donna.rupp@hotmail.com
5. Andy Reiling		ANDY.REILING@fire.ca.gov
6. TIM RITCHEY		timritchey@fs.fed.us
7. Nick Goulette		nick@hayfork.net
8. Scott Alvord		chief@wfdca.org
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		

Trinity Healthcare Preparedness Partners/HPP/PHEP
Meeting Minutes

Date: September 9, 2013

Location: Trinity Hospital

Present: Megan Blanchard, Public Health, Larry Masterman, OES, Patti Lima, Northern California EMS, Judy Nordlund, Kathy Norris, Trinity Hospital, Vicki Riley, Robert Jackson, ARES, Kathy Ratliff, TCLS/HPP, Donna Rupp, Resource Conservation District

1) **Approval of August 5, 2013 minutes.** Motion, Larry Masterman, to approve as submitted. Second, Megan Blanchard.

2) **Member Reports.** Donna Rupp of the Resource Conservation District gave a short presentation on the Local Hazard Mitigation Plan, soliciting participation in the planning process. Participation on the committee in a series of public meetings may qualify eligible entities for pre-disaster funding.

Public Health reports Drive Thru Vaccination Clinic is being planned for November 8th at Lowden Park.

OES reports on further improvement to the EOC via additional FEMA funding.

Northern California EMS reports the Region III FOG manual for MCI is complete and training by webinar is being planned for the six counties in Region III.

ARES reports repeater funding has been obtained.

HPP reports an approved budget and work plan for FY 13/14.

3) **Statewide Tabletop Exercise:** Tabletop exercise, foodborne event discussion:

- Multiple cases of bloody diarrhea presenting to local clinics, physicians and ED
- PH states for a County of our size, 2 or more cases = outbreak
- TH reports an average of 4-8 patients on the floor, 10 patients with existing staffing
- TH – transfers unlikely, hospital will be forced to surge, 25 beds possible, need staffing
- TCLS – ambulance status 3 available, assistance of Trinity Center 306 may be required
- Dispatch – triage of 911 calls needed
- Public info – Schools, day care, brochures at post office, channel 7R, HHS 'hotline'
- Partner communication – email, cahan, phone, fax
- PH provides screening forms to healthcare providers
- Lab procedures for request of State labs, shipping of specimens
- PH provides control measures
- Situation reporting, IAPs, MHOAC request for nursing staff

4) Adjournment / Next Meeting Date: Monday, October 7, 2013, 1 pm at TCLS

Prior to THPP meeting, PH, OES, TH, HPP have a working lunch on the PH and Medical EOP – at noon

THPP_09092013.pdf

Trinity Healthcare Preparedness Partners

Trinity County Resource Conservation District

If you would like to be notified to review and comment on 9/9/2013 1 pm

Trinity County's Hazard Mitigation Draft Plan

please provide your contact information below:

Name/ Organization	PLEASE PRINT	E-Mail
1. Vicki Riley (tentative!!)		rriley@dm-tech.net
2. Megan Blanchard	HHS	Megan Blanchard mblanchard@Trinitycounty.org
3. Kathy Ratliff Trinity County Life Support		kratliff@tcls.org
4. Judy Nordlund RN CNO	MCHD - Trinity Hosp	jnordlund@mcmedical.org
5. LARRY MASTERMAN	TRINITY CO. OES	lmasterman@trinitycounty.org
6. ROBERT JACKSON	TC OFFICE OF ED	rj@tcoek12.org
7.		
8.		
9.		
10.		
11.		
12.		

Randy Newell S. Trinity Area Rescue (non-profit?) (STAR) 707-601-5555 cell

Trinity Healthcare Preparedness Partners/HPP/PHEP
AGENDA

Monday, October 7, 2013 **1-3 p.m., Trinity County Life Support**

Welcome and introductions

1) Approval of September 9, 2013 Minutes
2) Public Health/MHOAC
    a. Drive Thru Vaccination Clinic
3) Northern California EMS
4) Trinity County OES
5) American Red Cross
6) Trinity County ARES
7) Trinity Hospital
8) Trinity County Life Support / Hospital Preparedness Program
    a. Signatures – THPP MOU
9) Adjournment / Next Meeting Date: Monday, November 4, 1-3 pm

"It is the mission of Trinity Healthcare Preparedness Partners to improve healthcare disaster preparedness across Trinity County through the collaboration of Trinity Operational Area authorities, healthcare providers, and emergency and community resources through discussion, planning, training, exercising, and evaluation, and to increase public awareness, preparedness and participation in the shared responsibility of community healthcare disaster preparedness."

Trinity Healthcare Preparedness Partners/HPP/PHEP
AGENDA

Monday, November 4, 2013 **1-3 p.m., Trinity Hospital**

Welcome and introductions

1) Approval of October 7, 2013 Minutes
2) Public Health/MHOAC
3) Northern California EMS
4) Trinity County OES
5) American Red Cross
6) Trinity County ARES
7) Trinity Hospital
8) Trinity County Life Support / Hospital Preparedness Program
9) Adjournment / Next Meeting Date: Monday, December 9, 2013

Work meeting at noon for those working on on PH and Medical Plan, 12:00, bring your lunch to the hospital conference room

"It is the mission of Trinity Healthcare Preparedness Partners to improve healthcare disaster preparedness across Trinity County through the collaboration of Trinity Operational Area authorities, healthcare providers, and emergency and community resources through discussion, planning, training, exercising, and evaluation, and to increase public awareness, preparedness and participation in the shared responsibility of community healthcare disaster preparedness."

Trinity Healthcare Preparedness Partners/HPP/PHEP
AGENDA

Monday, January 13, 2013 **1-3 p.m., Hospital Ed Room**

Welcome and introductions

1) Approval of December 9, 2013 Minutes
2) Annual organizational meeting – Set meeting dates and times for 2014
3) Review Statewide Exercise Revision 1 AAR
4) Public Health/MHOAC
5) Northern California EMS
6) Trinity County OES
7) American Red Cross
8) Trinity County ARES
9) Trinity Hospital
10) Trinity County Life Support / Hospital Preparedness Program
    a. Report on CAHAN training
    b. Report on DHV training/status
11) Adjournment / Next Meeting Date:

"It is the mission of Trinity Healthcare Preparedness Partners to improve healthcare disaster preparedness across Trinity County through the collaboration of Trinity Operational Area authorities, healthcare providers, and emergency and community resources through discussion, planning, training, exercising, and evaluation, and to increase public awareness, preparedness and participation in the shared responsibility of community healthcare disaster preparedness."

Trinity Healthcare Preparedness Partners/HPP/PHEP
Meeting Minutes

Date: Monday, January 13, 2014
Location: Trinity Hospital
Present: Eric Kilts, American Red Cross, Robert Jackson, ARES/HPP, Donna Rupp, RCD, Megan Blanchard, PH, Judy Nordlund, Trinity Hospital, Kara Davis, Nor Cal EMS, Kathy Ratliff, TCLS/HPP

1) **Approval of January 13, 2013 minutes.** Motion, Judy Nordlund, approving as presented. Second, Megan Blanchard.

2) **Annual organizational meeting – Set meeting dates and times for 2014.** Discussion to hold meetings every other month, offset from Disaster Council meetings. Consensus to meet on the 3rd Monday of odd months, 1 pm.

3) **Review Statewide Exercise Revision 1 AAR.** Draft 2 of the AAR was reviewed. Capability 3 Medical Surge, page 9 Area for Improvement 2 – Wording updated on recommendation for State trigger on waiver of nurse/patient radio. The AAR was approved as updated.

4) **Public Health/MHOAC.**
   - **a.** Medical and Health Appendices will be presented at March Disaster Council.
   - **b.** H1N1 novel influenza - respiratory/droplet mask adequate
   - **c.** Ample vaccine supply available through Public Health, available to providers on agreement

5) **Northern California EMS.** Kara Davis reported Nor Cal currently updating Sudden Infant Death Syndrome (SIDS) and Apparent Life Threatening Emergency (ALTE) protocols. (attached)

6) **Trinity County OES.** OES currently has a volunteer ½ day per week EOC staff.

7) **American Red Cross.** Eric Kiltz shared ARC capabilities and procedures:
   - **a.** Local cache of 100 cots/blankets, Redding cache of 1000, Reno cache of 1,000,000
   - **b.** Local shelter agreements with facilities that meet requirements
   - **c.** Medical screening by ARC Registered Nurse, no local volunteers, staff from Redding
   - **d.** In the case of observable illness, Public Health would be contacted
   - **e.** Medically fragile – many functional needs persons are sheltered, those with acute needs may be sent out or to a hotel
   - **f.** Shelter visits by PH in County policy
   - **g.** County should be prepared to operate shelter for 24 hours

8) **Trinity County ARES.** Healthcare Partners will very much miss Vicki Riley. Vicki passed away peacefully in December.
   - **a.** Robert Jackson reported that he and Kathy completed CAHAN Administrator training. The administrative tab is not functional however, and Megan will follow up.

9) **Trinity Hospital.** Judy Nordlund reported on hospital staff HICS and HERT training.

10) **Trinity County Life Support / Hospital Preparedness Program**
   - a. CAHAN Administrator training completed by Robert and Kathy
   - b. DHV Administrator training completed by Kathy, followed by participation in a State drill

11) **Adjournment / Next Meeting Date:** March 17, 2014, 1 -3 pm, Trinity Hospital

Submitted by: KR

Trinity Healthcare Preparedness Partners/HPP/PHEP
AGENDA

Monday, April 21, 2014 **12:00-2:00 p.m., Trinity Hospital**

Welcome and introductions

1) Approval of January 13, 2013 meeting minutes
2) Discuss change in meeting schedule, 3rd Monday, even months.
3) Discuss participation in OES Statewide Exercise May 14, 2014
4) Public Health/MHOAC
5) Northern California EMS
6) Trinity County OES
7) American Red Cross
8) Trinity County ARES
9) Trinity Hospital
10) Trinity County Life Support / Hospital Preparedness Program
    a. Continuity of Operations
    b. Healthcare Coalition Matrix
    c. HPP Asset listing
    d. 2014/15 HPP Work Plan
11) Adjournment / Next Meeting Date: Consider Monday June 16, 2014

"It is the mission of Trinity Healthcare Preparedness Partners to improve healthcare disaster preparedness across Trinity County through the collaboration of Trinity Operational Area authorities, healthcare providers, and emergency and community resources through discussion, planning, training, exercising, and evaluation, and to increase public awareness, preparedness and participation in the shared responsibility of community healthcare disaster preparedness."

Trinity Healthcare Preparedness Partners/HPP/PHEP
Meeting Minutes

Date: Monday, April 21, 2014
Location: Trinity Hospital
Present: Eric Kiltz, American Red Cross, Robert Jackson, ARES/HPP, Donna Rupp, RCD, Megan Blanchard, PH, Judy Nordlund & Carol Huang, Trinity Hospital, Kara Davis & Patti LIma, Nor Cal EMS, Kathy Ratliff, TCLS/HPP

1) **Approval of January 13, 2013 minutes.** Eric Kiltz clarified item 7e – change from no local volunteers, to no local nursing staff. Motion, Judy Nordlund, approving as amended. Second, Megan Blanchard.

2) **Discuss change in meeting schedule, 3rd Monday, even months.** Consensus to meet on the 3rd Monday of even months, 1 pm.

3) **Discuss participation in OES Statewide Exercise May 14, 2014.** OES Coordinator willing to hold an earthquake tabletop at the EOC on May 14. Consensus to participate.

4) **Public Health/MHOAC.**
- **a.** Medical and Health Appendices draft – remaining task to spell out acronyms
- **b.** Draft alternative care site plan in progress

5) **Northern California EMS.** Kara Davis reported
- **a.** Pre-hospital conference April 26th
- **b.** Glenn County multi-casualty incident, policy adaptations pending as a result of the real world experience
- **c.** May 6 next regular medical advisory committee meeting

Patti Lima reported for Northern California EMS HPP LEMSA
a. Training on Region III MCI Manual well received, will be available online by the end of May, with EMS and RN CEUs available
b. Dr. Rudnick working on altered standard of care for Disaster
c. DHV recruitment memo will be out this week
d. Mark Beldon working on top 3 identified hazards and coalition matrix for the combined areas
e. The six counties within LEMSA area have funded HPP LEMSA deliverables for FY 14/15 with equal cost-share, consistent with FY 13/14

6) **Trinity County OES.** No report

7) **American Red Cross.** Eric Kiltz reported recent real-world experience for local chapter
- **a.** Glenn County MCI with shelter of stranded motorists
- **b.** Washington landslide assistance

8) **Trinity County ARES.** Robert Jackson reported
- **a.** ARES will be participating OES Statewide Exercise
- **b.** Discussion of ham antenna needs for Public Health, Hospital with Robert to research

9) **Trinity Hospital.** Judy Nordlund reported
- **a.** Recent womens' health care event, used HPP-provided message board
- **b.** Received additional walkie talkies

10) Trinity County Life Support / Hospital Preparedness Program

a. **Continuity of Operations (COOP).** Last month, PH, OES, Hospital and HPP attended a COOP webinar facilitated by California Department of Public Health. Recommended resources have been gathered. It was agreed the work will start this 4th quarter of FY 13-14, with completion of the plans for clinics and hospital by the end of FY 14-15 2nd quarter.

b. **Healthcare coalition matrix.** A matrix already exists, created by OES, for partner responsibilities based on the hazard. Task required by HPP grant is to review designated partner roles on the matrix for the top 3 hazards, and identify any needs to assist the partners to fill those roles. Kathy presented general information on roles/hazards on templates provided by CDPH, and partners will continue the review by a combination of survey and work meeting.

c. **HPP asset listing.** A list of HPP assets presented that encompasses partial 2006 to the 2012. Current fiscal year assets and assets prior to 2006 will be added. The list will be combined with non-HPP disaster assets across the OA, and added to the Trinity County EOP, and possibly accessible to partners on CAHAN.

d. **2014/15 Work Plan.** Plan needs to be submitted by the end of May. TCLS has requested to transition out of HPP Coordination; the one year commitment has stretched to two with the third year beginning. PH is advertising the position. Agencies will work together ensure continuity.

e. Recent DHV (Disaster Healthcare Volunteer) drill put on by State EMSA – Sent message from DHV system to a specified set of volunteers, 6 of 8 RNs responded.

f. Discussion of upcoming Hospital Decontamination training. Consensus to plan a full scale exercise for the next fiscal year, tentatively May 2015.

11) Adjournment / Next Meeting Date: Monday, June 16, 2014, 2 pm at Trinity Hospital
(time change from 1 pm to 2 pm for June 16 only)

Submitted by: KR

Trinity Health Care Mtg - 2/4/2015

NAME	ORGANIZATION
Maryann Distlind	Partnership Health Plan
Anne Lagano	TC Beh. Health Services
Elizabeth Wallgren	TC Public Health
Megan Blanchard	TC Public Health
Leanne Brown	TC Public Health
Richard Gore	TC Public Health
Donna Rupp	TCRCD
Judy Nordlund	Trinity Hospital - MCHD
Christe Zopp	

Appendix B

Public survey and related materials

Survey Announcement emailed to list of interested people on January 22, 2014

Trinity County Hazard Mitigation Survey Available

You are receiving this email because you have expressed interest in the Trinity County Local Hazard Mitigation planning process. If you do not wish to receive future announcements, please reply and state “remove” and your address will be removed.

As part of the hazard mitigation planning process, we are seeking public input through an online survey. A link to the survey has been posted on the Trinity County website: http://www.trinitycounty.org/index.aspx?page=35

The survey will take under 10 minutes to complete. Please forward this email to other county residents who you believe would like to participate.

If you have any questions, please call Donna at the Trinity County RCD, 623-6004.

Thank you.

Trinity County Hazard Mitigation Plan Survey

Thank you for participating in the Trinity County Hazard Mitigation Plan survey. This Plan will provide a framework to guide our county in making decisions and developing policies to reduce or eliminate risk to life and property from the hazards that threaten our communities. In the process of creating the plan, we will evaluate our vulnerability to those threats, and outline a strategy to reduce or eliminate the risk posed by those threats.

State and federal governments require communities to complete a Hazard Mitigation Plan in order to be eligible for certain types of disaster assistance and recovery funding. This survey will help the Hazard Mitigation Planning Committee determine the concerns and questions the community has about hazards we face and guide discussions throughout the planning process. In order to identify and plan for future natural and man-made disasters, this survey will help us gauge the level of knowledge that local citizens have about natural disaster issues.

1. Where do you live in Trinity County?
   - o North Lake (including communities of Coffee Creek, Trinity Center, Covington Mill)
   - o Middle Trinity (including communities of Weaverville, Lewiston, Douglas City, Junction City)
   - o South Fork (including communities of Hayfork, Hyampom, Wildwood, Post Mountain, Peanut, Forest Glen)
   - o Down River (including communities of Big Bar, Burnt Ranch, Hawkins Bar, Salyer, Denny, Helena, Big Flat, Del Loma)
   - o South County (including communities of Ruth, Mad River, Zenia, Kettenpom)

2. Your age range:
   o 18-25 o 26-35 o 36-45 o 46-55 o 56-65 o over 66

3. Please rate each of the following hazards on a scale of 1 (no threat) to 4 (high threat) indicating the level of threat you perceive.

	1.No Threat	2. Low Threat	3. Moderate Threat	4. High Threat
Avalanche	O	O	O	O
Dam Failure	O	O	O	O
Drought	O	O	O	O
Earthquake	O	O	O	O
Energy Shortage	O	O	O	O
Extreme Cold	O	O	O	O
Extreme Heat	O	O	O	O
Flood	O	O	O	O
Radiological Materials Release	O	O	O	O
Hazardous Material Release (other)	O	O	O	O
Household Fire	O	O	O	O
Landslide	O	O	O	O
Levee Failure	O	O	O	O

Loss of Communications	O	O	O	O
Major Road Closures	O	O	O	O
Poor Air Quality	O	O	O	O
Power Outage	O	O	O	O
Severe Weather	O	O	O	O
Terrorist Attack	O	O	O	O
Tsunami	O	O	O	O
Volcanic Eruption	O	O	O	O
Widespread Infectious Disease	O	O	O	O
Wildfire	O	O	O	O
Other Human-caused Hazard	O	O	O	O
Other Natural Hazard	O	O	O	O

Please list other hazards you are concerned about: _____
_____

4. What is the worst hazard that you have experienced in Trinity County?

---

5. What do you consider to be the five worst case scenarios that could occur in Trinity County?

   1. _____
   2. _____
   3. _____
   4. _____
   5. _____

6. Have you ever had problems getting homeowner's or renter's insurance due to risks from natural hazards?

   O Yes O No O Not sure

   If yes, which hazard(s) was involved? _____

7. How prepared is your household to deal with a hazard event?

	Not at all prepared	Somewhat prepared	Adequately prepared	Well prepared	Very well prepared	Not sure
Check one:	O	O	O	O	O	O

8. Which of the following have provided you with useful information to help you be prepared for a hazard event?

- o Emergency preparedness information from a government source (e.g., federal, state, or local emergency management)
- o Locally provided news
- o Internet
- o Attended meetings that have dealt with disaster preparedness
- o Personal experience with one or more natural hazards/ disasters
- o Schools and other academic institutions
- o Church
- o None
- o Other (please specify): _____

9. Which of the following steps has your household taken to prepare for a hazard event? (Check all that apply)

- o Received first aid/CPR training
- o Made a fire escape plan
- o Designated a meeting place
- o Identified utility shutoffs
- o Stored sand bags
- o Purchased and learned how to use a NOAA Weather Radio
- o Stored a battery-powered radio
- o Stored a fire extinguisher
- o Stored long shelf -life food and water
- o Prepared a disaster supply kit
- o Stored medical supplies (first aid kit, medications)
- o Purchased natural hazard insurance (Flood, Earthquake, Wildfire)
- o Established a "defensible space" around your home
- o Use of fire resistant landscape
- o Anchored service utilities to my home (water heater, furnace, wood stove, etc.)
- o Purchased a generator for back up power
- o Stored flashlights and batteries
- o None

10. Of the steps identified above, do you plan on taking any of these within the next six months?

O Yes O No

Within the next 12 months?

O Yes O No

11. Which of the following methods do you think are most effective for providing hazard and disaster information? (Check all that apply)
    - o Newspaper
    - o Telephone Book
    - o Informational Brochures
    - o Newsletters
    - o Public Meetings
    - o Workshops
    - o Schools
    - o TV News
    - o TV Ads
    - o Radio News
    - o Radio Ads
    - o Internet
    - o Fire Department/Rescue
    - o Law Enforcement
    - o Church
    - o Public Awareness Campaign
    - o Books
    - o Chamber of Commerce
    - o Public Library
    - o Red Cross Information
    - o Community Safety Events
    - o Fair Booths
    - o Word of Mouth
    - o Social Media
    - o Auto-dial information "911"
    - o Other (please specify):
      _____

12. What do you feel Trinity County can do to help prepare residents for potential disasters or reduce or eliminate the impact of these hazards?

_____
_____
_____

If you would like to be notified of future opportunities to participate in the plan update process, please provide us with your preferred email address below.

_____

Thank you for taking the time to complete this survey!
Please mail to:

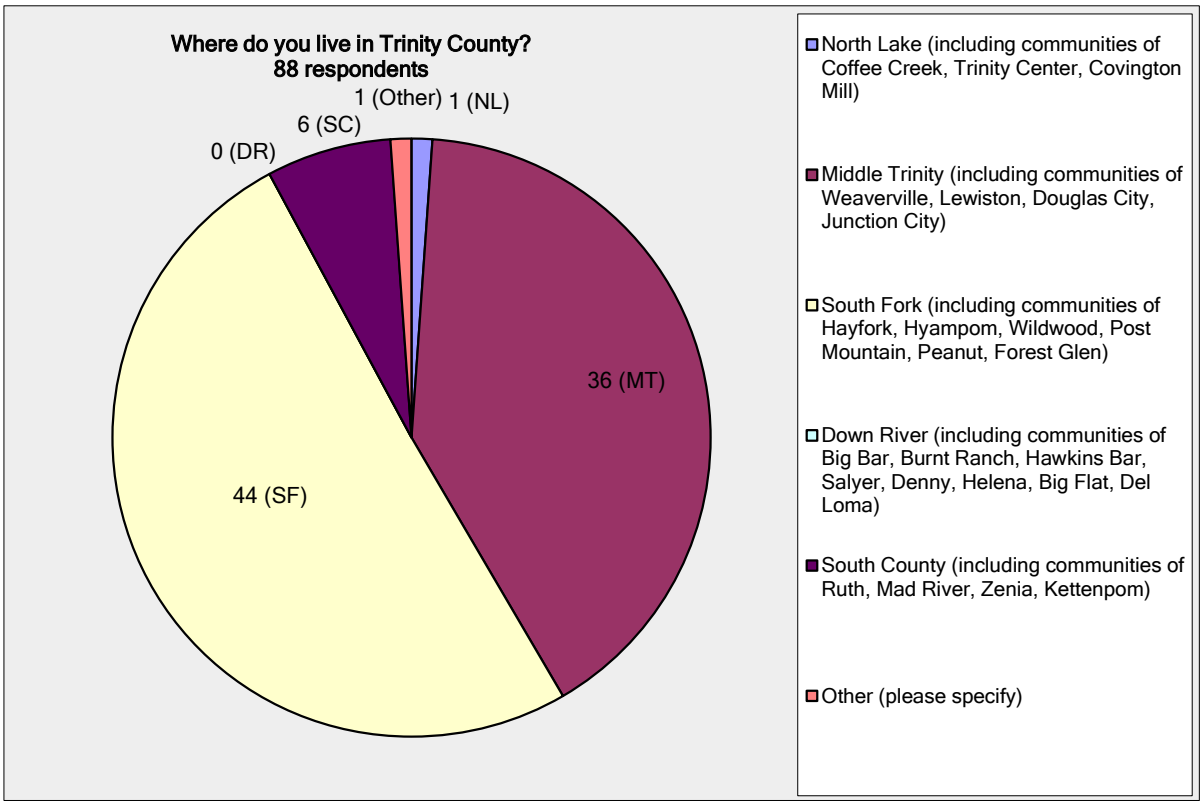
TCRCD, Attn: Donna Rupp,

PO Box 1450, Weaverville CA 96093

Trinity County Hazard Mitigation Planning Survey

Q 1: Where do you live in Trinity County?			
Web Answer Options	**Response Percent**	**Response Count**	Total
North Lake (including communities of Coffee Creek, Trinity Center, Covington Mill)	1.7%	1	1
Middle Trinity (including communities of Weaverville, Lewiston, Douglas City, Junction City)	60.3%	35	36
South Fork (including communities of Hayfork, Hyampom, Wildwood, Post Mountain, Peanut, Forest Glen)	37.9%	22	45
Down River (including communities of Big Bar, Burnt Ranch, Hawkins Bar, Salyer, Denny, Helena, Big Flat, Del Loma)	0.0%	0	0
South County (including communities of Ruth, Mad River, Zenia, Kettenpom)	0.0%	0	6
Other (please specify)		1	1
	answered question	**58**	89
	skipped question	**0**	

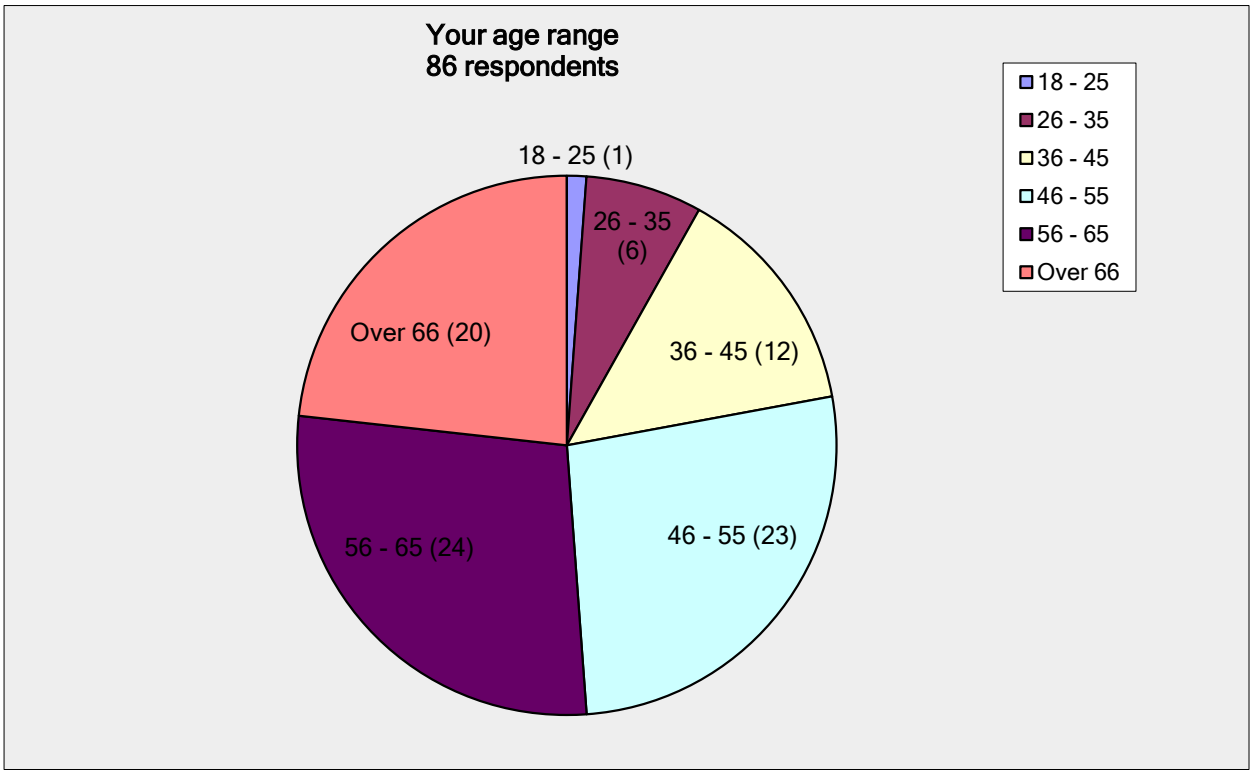
Paper Survey Answers	
North Lake	0
Middle	1
South Fork	23
Down River	0
South County	6
Other	28

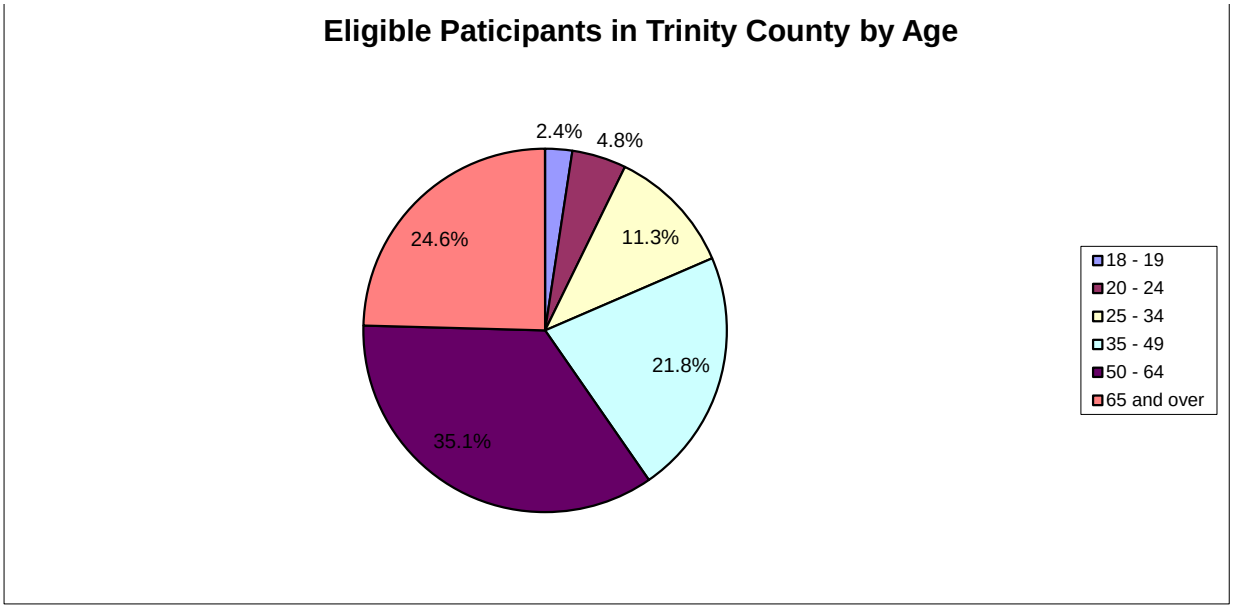


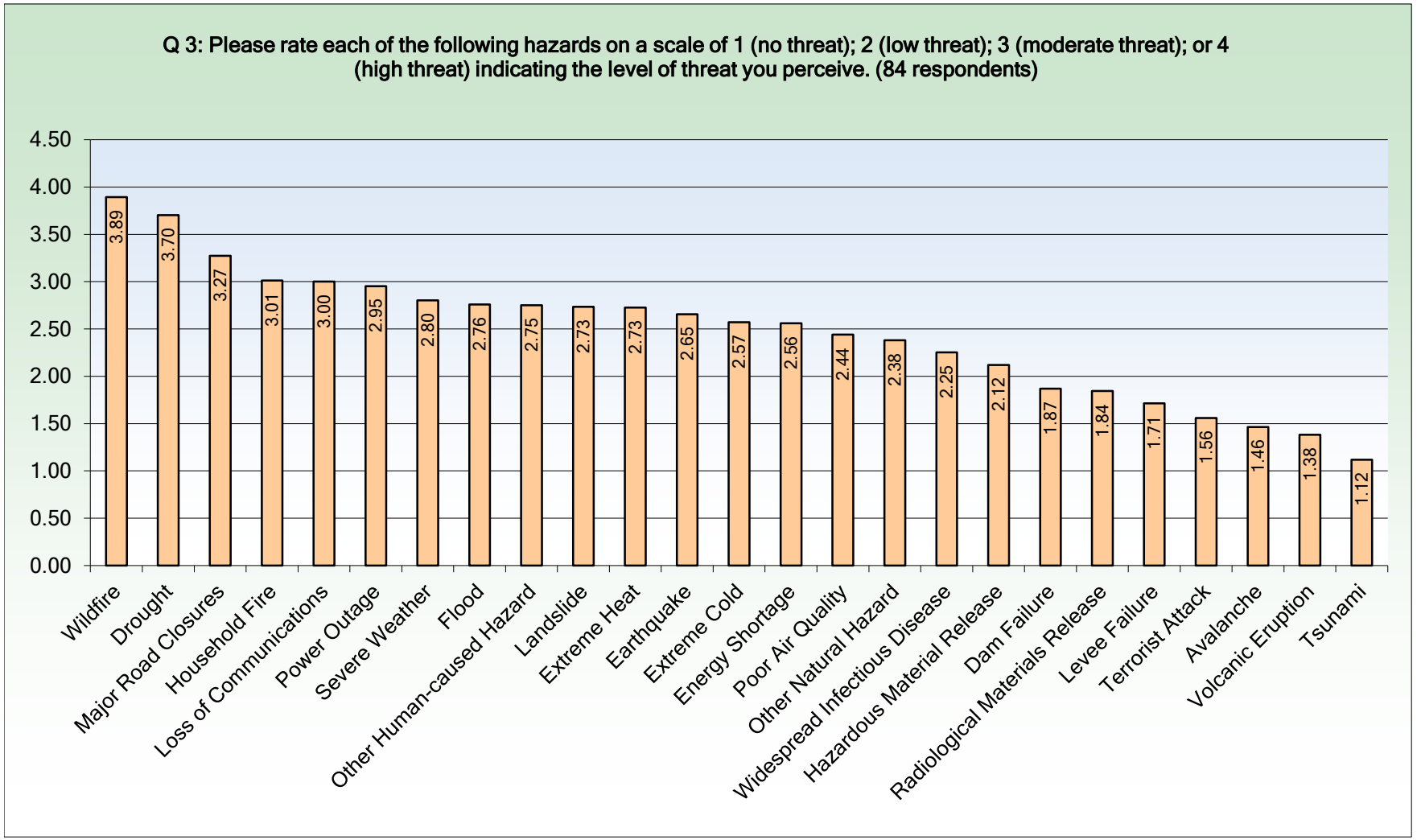
Trinity County Hazard Mitigation Planning Survey

Q 2: Your age range			
Web Answer Options	**Response Percent**	**Response Count**	**Total Web & Paper**
18 - 25	1.8%	1	1
26 - 35	7.1%	4	6
36 - 45	16.1%	9	12
46 - 55	32.1%	18	23
56 - 65	21.4%	12	24
Over 66	21.4%	12	20
	answered question	**56**	**86**
	skipped question	**2**	

Paper Survey Answers	
18 - 25	
26 - 35	2
36 - 45	3
46 - 55	5
56 - 65	12
Over 66	8
Total	**30**




Eligible Paticipants in Trinity County by Age
2.4%
4.8%
11.3%
21.8%
35.1%
24.6%
18 - 19
20 - 24
25 - 34
35 - 49
50 - 64
65 and over


Q 3: Please rate each of the following hazards on a scale of 1 (no threat); 2 (low threat); 3 (moderate threat); or 4 (high threat) indicating the level of threat you perceive. (84 respondents)
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
3.89
3.70
3.27
3.01
3.00
2.95
2.80
2.76
2.75
2.73
2.73
2.65
2.57
2.56
2.44
2.38
2.25
2.12
1.87
1.84
1.71
1.56
1.46
1.38
1.12
Wildfire
Drought
Major Road Closures
Household Fire
Loss of Communications
Power Outage
Severe Weather
Flood
Other Human-caused Hazard
Landslide
Extreme Heat
Earthquake
Extreme Cold
Energy Shortage
Poor Air Quality
Other Natural Hazard
Widespread Infectious Disease
Hazardous Material Release
Dam Failure
Radiological Materials Release
Levee Failure
Terrorist Attack
Avalanche
Volcanic Eruption
Tsunami

Trinity County Hazard Mitigation Planning Survey

Q 4: What is the worst hazard that you have experienced in Trinity County?

Number	Response Date	Response Text
1	Mar 4, 2014 5:41 AM	Wildfire, flooding, poor air quality, loss of communications, extended power outages, major road closures, severe weather (deep snow)
2	Feb 26, 2014 4:19 PM	The BIG fire
3	Feb 23, 2014 2:33 AM	wildfire
4	Feb 21, 2014 7:49 AM	household fire
5	Feb 13, 2014 3:55 AM	Cartel grows
6	Feb 7, 2014 7:10 PM	wildfire
7	Feb 7, 2014 5:04 AM	The County CPS & Family Court corruption that steals children for profit... Placing them with convicted pedophiles!
8	Feb 1, 2014 4:18 PM	Wildfire
9	Feb 1, 2014 4:21 AM	sub zero temps and wildfires within a 1 1/2 yr time
10	Jan 31, 2014 11:57 PM	Wildfire
11	Jan 31, 2014 12:44 AM	Wildfire
12	Jan 30, 2014 9:11 PM	1. Bullies who exhaust good people and keep good change from happening. 2. Run away trucks that hit stores and people in downtown Weaverville--this has happened several times and each time caused me personal and financial pain. 3. During times of flooding, family/friends tried to rescue and were not trained to do so.
13	Jan 29, 2014 7:16 AM	extreme heat
14	Jan 28, 2014 5:10 PM	Wildfire
15	Jan 28, 2014 3:33 AM	severe weather...heat and cold
16	Jan 28, 2014 3:22 AM	Flooding & wild fire
17	Jan 27, 2014 7:57 PM	Wildfire
18	Jan 27, 2014 1:58 AM	wildfires
19	Jan 26, 2014 5:58 PM	Our mountains on fire.
20	Jan 26, 2014 5:39 PM	wildfires
21	Jan 26, 2014 5:14 PM	Wildfire
22	Jan 26, 2014 5:04 PM	Smoke from Wildfires
23	Jan 26, 2014 2:03 AM	Wildfire
24	Jan 26, 2014 12:00 AM	power loss
25	Jan 25, 2014 10:57 PM	FIRE
26	Jan 25, 2014 9:15 PM	Wildfire 08
27	Jan 25, 2014 7:03 PM	wild fire
28	Jan 25, 2014 6:07 PM	Wildland fire
29	Jan 25, 2014 6:04 PM	Power outage snow/ice
30	Jan 24, 2014 12:09 AM	wildfire
31	Jan 23, 2014 5:47 PM	The wildfires of 1987. Although most of Trinity County was affected by the wildfires, Hayfork and Hyampom were the hardest hit. The National Guard had to be brought in and the fires burned for a month or more. Many tree plantations and commercial grade timber was destroyed and many homes were threatened by the fire. The fire came within a 1/2 mile from our house. An evacuation center was set up at Hayfork Elementary school. Air quality was at the danger level for weeks.
32	Jan 23, 2014 5:15 PM	wildfire
33	Jan 23, 2014 4:17 PM	Wildfire
34	Jan 23, 2014 4:11 PM	ice on roads
35	Jan 23, 2014 2:22 PM	wildfire

36	Jan 23, 2014 5:47 AM	Wildfire and drought are both disturbances that could seriously impact short and long term opportunities and day-to-day function/operations.
37	Jan 23, 2014 5:39 AM	wildfire
38	Jan 23, 2014 5:26 AM	Smoke from fires
39	Jan 23, 2014 3:38 AM	Wildfires of 1987
40	Jan 23, 2014 3:07 AM	fire threat
41	Jan 23, 2014 1:36 AM	2008 wildfire
42	Jan 22, 2014 11:03 PM	Wildfire
43	Jan 22, 2014 10:37 PM	Wildfires
44	Jan 22, 2014 10:35 PM	Flooding and landslides
45	Jan 22, 2014 10:18 PM	weeks of snow and no power
46	Jan 22, 2014 9:50 PM	Heavy snow bringing down trees, combined with power outage of over 1 week.
47	Jan 22, 2014 9:01 PM	Forest Fire
48	Jan 22, 2014 8:46 PM	rock slides
49	Jan 22, 2014 8:38 PM	Oregon mountain wildfire and evacuation from Weaverville
50	Jan 22, 2014 8:05 PM	wildfires, road closure, power outages
51	Jan 22, 2014 3:48 PM	The fires of 2006 and again in 2008. My lungs have not been the same since.

	Paper survey answers	Total Responses: 29
52		Wildfires
53		floods and heavy snow
54		no water, pot growers and fire
55		Floods and lightening caused fire decimating 15 acres of my timber
56		Flood and fires
57		forest fires
58		wild fire on our property
59		Wildfires
60		flood, bridge failure, fire
61		flood
62		fire
63		wild fires
64		wildfire 1987 & 2008
65		forest fires
66		No electricity 30 days 64-65 and 8 days 12-13
67		rock slide Hyampom Rd.
68		rock slide Hyampom Rd.
69		fire
70		wild fire
71		wild fire
72		wildfire 1987 & 2008
73		fire
74		rock slide Hyampom Rd.
75		fire
76		Power outages
77		fire
78		rock slide Hyampom Rd. closing rd for wks.
79		rock slide Hyampom Rd.
80		mud slide through a house

Trinity County Hazard Mitigation Planning Survey

Q 5: What do you consider to be the five worst case scenarios that could occur in Trinity County?

Web Answer Number	Response Date	1.	2.	3.	4.	5.
1	Mar 4, 2014 5:44 AM	Wildfire	Flood--not a major threat to our location, but could cause widespread/long term dislocation and problems.	Household or structure fires--cold cause major disruption to our business.	Power outages and loss of communications. Cost mush time and money in lost productivity and coping.	Poor air quality from wildfires--can (and did in 2008) cause major disruption to our seasonal business.
2	Feb 26, 2014 4:21 PM	Wild Fire	Loss of Communication	Road Closure-Access	Widespread power outage	infectious disease outbreak
3	Feb 23, 2014 2:38 AM	wildfire burns through a town	trinity dam failure	radical re call elements do something stupid that hurts people	haz mat spill	long term 299 closure
4	Feb 21, 2014 8:02 AM	wildfire burning houses, taking lives, and killing vegetation that protects watersheds	County government severely restricting the freedoms of property owners and residents	disruption of and/or increased cost of trucking food and supplies, causing skyrocketing costs and shortages	climate change causing severe droughts and/or severe winters	social instability in cities that causes an influx of refugees that overtax existing resources and increase crime
5	Feb 13, 2014 3:57 AM	Earthquake	dam failure from quake	power and communications cut off from quake	fires caused by quake	roads closed by quake
6	Feb 7, 2014 7:20 PM	widespread wildfire near or within developed communities	full length Cascadia Subduction Zone large magnitude earthquake	partial/southern section Cascadia Subduction Zone large magnitude earthquake	severe extended drought and/or excessive CVP water exports dead-pooling Trinity Lake for multiple years	continuing and increasing economic/social deterioration in cooperative self-governance

7	Feb 7, 2014 5:09 AM	CPS takes children without proof to show cause!	Judges rule based on prima facie statements by CPS.	Children are ripped from loving parents by CPS causing horrific abuse to children	No official in county will uphold their oath and the constitutional rights of families!	Our children are neglected manipulated mediated and abused by CPS & Family Court Corruption and no official does their jobs!
8	Feb 1, 2014 4:21 PM	Wildfire	Flood-loss of roads	Drought	Dam failure	Earthquake
9	Feb 1, 2014 4:22 AM	loss of roads in or out of town	wildfires	drought	loss of communication	power outages
10	Jan 31, 2014 11:59 PM	wildfire	poor air quality	household fire	flood	long term major road closure
11	Jan 31, 2014 12:47 AM	Having another bad fire season with widespread wildfires	Road closure of 299 for any prolonged time	Loss of communication from downed lines/towers	Loss of power from downed lines/towers	Dam failure
12	Jan 30, 2014 9:14 PM	Trucks carrying hazardous materials crash or otherwise lose their loads	Trinity Dam breaks	No snow pack in the Alps	No resources (machines, people and materials) to fight fires	People trapped because many Trinity roads are dead ends
13	Jan 29, 2014 7:20 AM	wildfire burning the town	severe drought	really bad air quality from wildfires	long heat wave	not enough water to supply the town or CalFire because of a drought
14	Jan 28, 2014 5:23 PM	The Board of Supervisors doesn't listen to the people	water poisoning	wildfire in town	animal plague	Buckhorn complete collapse
15	Jan 28, 2014 3:28 AM	Fire	flooding	diseases	earthquakes	mud slides
16	Jan 27, 2014 7:58 PM	Wildfire	Power outages	landslides cut off major routes 299 & 3	major flooding on the trinity	earthquake disrupts power sources or major transportation routes
17	Jan 27, 2014 2:01 AM	the mess on 299 E causes road closure due to slides	the work on 299W cause road closures due to slides	wildfire	major accident on 299E due to higher speeds and increased truck traffic causing road closure	drought
18	Jan 26, 2014 6:01 PM	Forest fire	Snow storm	Power outage	Telephones out	Pot grower infiltration
19	Jan 26, 2014 5:40 PM	wildfires	major road closures	drought	severe weather conditions	power outage
20	Jan 26, 2014 5:16 PM	wildfires	wildfires = road closures	no communications	lack of suppression resources	severe winds
21	Jan 26, 2014 5:05 PM	Wildfires	Drought	Serve Weather	mudslides	flooding

22	Jan 26, 2014 2:05 AM	wildfire	highway accidents involving hazardous materials.	highway accidents.	Road closures due to slides, or wildfire.	Lengthy power outages.
23	Jan 26, 2014 12:00 AM	loss of power	long term road closure			
24	Jan 25, 2014 10:57 PM	FIRE	DROUGHT	DAM ISSUE		
25	Jan 25, 2014 9:18 PM	Wildfire	Drought	Poisoning of watershed - pot farming		
26	Jan 25, 2014 7:09 PM	Drought	Wildfire	epidemic		
27	Jan 25, 2014 6:09 PM	Wildland fire	Road collapse	Weather	Dam failure	Power failure
28	Jan 25, 2014 6:07 PM	murders/ high crime	fires	sovereign citizens	No jobs	Drug problems
29	Jan 24, 2014 12:19 AM	Wildfire	Water shortage	Drought	County bankruptcy/state takeover	Internet failure
30	Jan 23, 2014 5:57 PM	Catastrophic Wildfire that destroys the towns of Weaverville and Hayfork and outlying areas	Climate change that leads to more droughts and less water in our reservoirs, rivers and creeks	Major wildfires in the county that last a long time and lead to dangerous levels of air contaminates	Communication services shut down do to man-made or natural causes. No link to outside world.	Any event that would cut off delivery of energy supplies, especially during a very cold winter
31	Jan 23, 2014 5:18 PM	widespread wildfires late in season when most resources are fighting fire elsewhere	failure of Trinity dam	severe winter storm that disrupts essential services for multiple days	severe & prolonged (multi-year) drought	any combination of the above
32	Jan 23, 2014 4:21 PM	Active Shooter	Earthquake with structure collapse/fire	Wildfire and loss of homes	Pandemic Flu	Hazmat spill highway/river
33	Jan 23, 2014 4:13 PM	Wildfire	Drought	Damn breaking	Severe cold weather	road collapse
34	Jan 23, 2014 2:24 PM	wildfire/ evacuation	escalation of crime	pollution from old logging sites	pollution from pot grows	societal degradation from pot culture. It is obvious now.

35	Jan 23, 2014 5:55 AM	Drought year and fire season around all of California pull local resources out of the area and over-tax the larger systems of which we are part.	Rain on snow events could lead to serious flooding and sediment delivery into our waterways.	Current governance capacity inadequately addresses threats...emergency triage response costs us lives, money, time, and long term impacts are unavoidable.	Wildfire burns with extreme fire effects in municipal watersheds leading to erosion and sedimentation.	We cannot support the VFDs, NGO's and other institutions that provide critical planning, project implementation, emergency response, and rehabilitation functions in our communities..
36	Jan 23, 2014 5:48 AM	major wildfire	extreme drought, no water in reservoir, weakened trees can't resist bark beetles and die--fire danger.	road closures due to snow, fire, or landslides	extreme heat 25 degrees above normal would be 125 degrees some days.	Extreme cold. We had lots of broken pipes this year.
37	Jan 23, 2014 5:26 AM	Fire	Fire	Fire	Fire	Fire
38	Jan 23, 2014 3:40 AM	Wildfire	Radiation contamination	Drought	Flood	Earthquake
39	Jan 23, 2014 3:09 AM	drought	fire	forest fire	water shortage in rivers	earthquake
40	Jan 22, 2014 11:47 PM	Extended or prolonged Fire complex and poor air quality given the limited rain fall	Fire resources limited on regional level due to competing incidents			
41	Jan 22, 2014 11:04 PM	Wildfire	Airliner crash in populated area	Major disaster causing huge influx of refugees from other areas		
42	Jan 22, 2014 10:41 PM	Lengthy road closures blocking traffic in and out of the county	Wildfires	Drought/water shortage		
43	Jan 22, 2014 10:37 PM	Flooding, bridges washing out	Landslides in all directions closing off ingress and egress	Hazardous spill along highway getting into local water sources	Dam breaking causing mass flooding	Extreme weather with power outages
44	Jan 22, 2014 10:19 PM	Fire	Drought	Road closures	Loss of power	people not being prepared

45	Jan 22, 2014 9:54 PM	Wildfire destroying homes and injuring people	Rock slides closing Highway 3, and 36 after massive earthquake or weather activity.	Flu epidemic overwhelming local medical resources	Toxic water due to pollutants from Marijuana growers getting into the watershed, combined with drought	Loss of honey bee population due to pollutants, chemicals and gmo seeds, affecting local food sources
46	Jan 22, 2014 9:02 PM	Major Forest Fire	Drought	landslide	infectious disease	severe weather either too hot or severe cold
47	Jan 22, 2014 8:39 PM	wildfires	dam breakage	bridge collapse		
48	Jan 22, 2014 8:07 PM	wild fire	dam breaking	road closures	river/creeks flooding	severe drought
49	Jan 22, 2014 3:50 PM	Wild Fires	Road Closures	Loss of cell towers and internet	Emergency Medical coverage	CalFire closing all winter. Should be manned all year

Paper Survey Answers	1.	2.	3.	4.	5.
50	wildfire destroying important infrastructure				
51	Dam breach	Wildfire burns through community	Serious, long-term flooding	Bridge washes out creating no egress access	fire at the school
52	No water	pot growers	fire	no law	
53	Forest fires	road closures from a variety of causes	river heads in a new direction	too much snow/storm with power out	
54	Fires with road closings	floods with road closings			
55	Forest fires	flood	road closure due to landslides - Hyampom Rd.	power outage	loss of communication outside of valley
56	Massive fire	no law enforcement			
57	Forest fires	Dam failure (Mad river area)	Household fires	flood waters	
58	wildfire destroying important infrastructure	drought	flood	loss of communications	major road closures
59	wildfire	flood	power failure		
60	Dam breach	forest fire	road closure	power outage	radioactive fallout
61	drought fueled catastrophic fire	flooding removing access			
62	widespread wildfire	major earthquake	100 year flood	major weather event	

63	wild fire	road closures from a variety of causes	lengthy energy outage	2008 wildfires impacting power lines on Hyampom Rd.	
64	wild fire	flood	landslides	road closures	earthquake
65	Damage at Trinity Dam	Hayfork loss of electricity	flood along Trinity River and South Fork		
66	wildfire	Landslide, valley floods	extreme drought		
67	wildfire	loss of power and phone	flood	earthquake causing a landslide which dams the river	
68	wild fire	drought			
69	wildfire	drought	flood	power outage	landslide creating road closure
70	communities burned over by wildfire	flooding along major drainages	hazardous waster spill along 299, into Trinity River	Earthquakes	major power outage
71	wildfire	flood	slides	power outage	communications
72	wildfire	roads blocked	loss of communications	drought	toxic release of chemicals in our environment
73	fire	flood	extreme cold	road closures	earthquake
74	flood	fire			
75	severe drought	severe wildfire season with no water to extinguish it.	downriver avalanche/landslide causing Hyampom valley to flood	infectious disease	
76	wildfire	landslide	power failure	disease	flood
77	fire	mudslides	snow closing roads	phone outages	power outage

Trinity County Hazard Mitigation Planning Survey

Q6: Have you ever had problems getting homeowners or renters insurance due to risks from natural disasters?

	Yes	No	Not sure	Total
Survey Monkey	10	34	8	
Paper surveys	11	13	4	
Total responses	**21**	**47**	**12**	**80**

Yes: Because of Fire (10), flood (1)

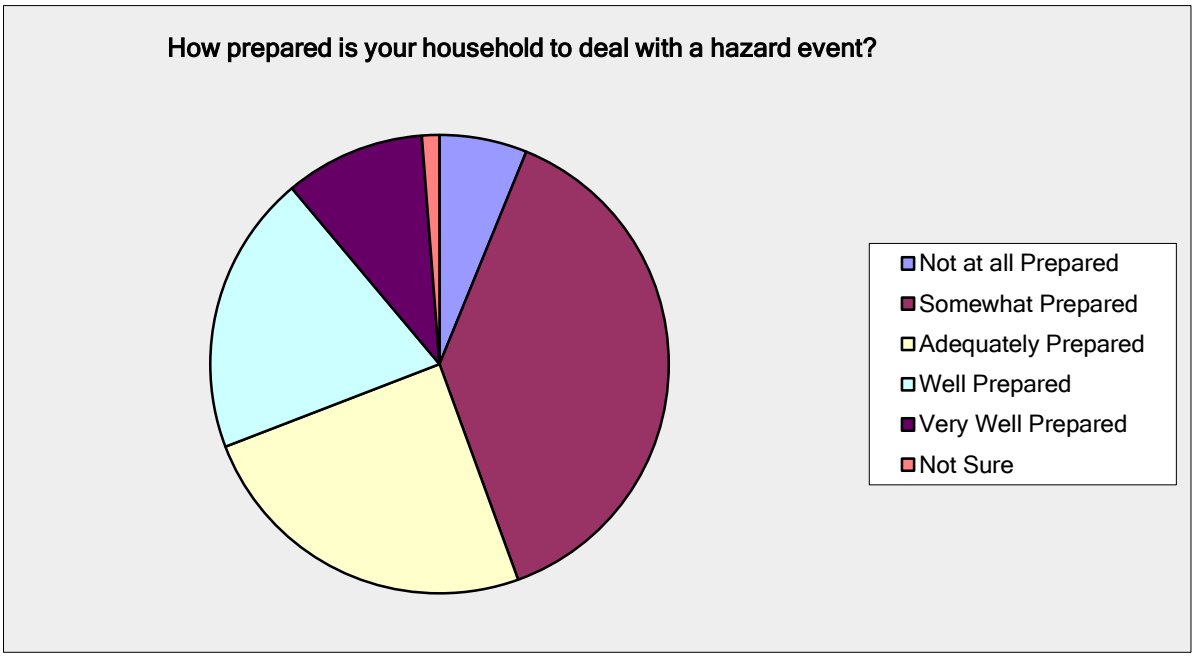
Trinity County Hazard Mitigation Planning Survey

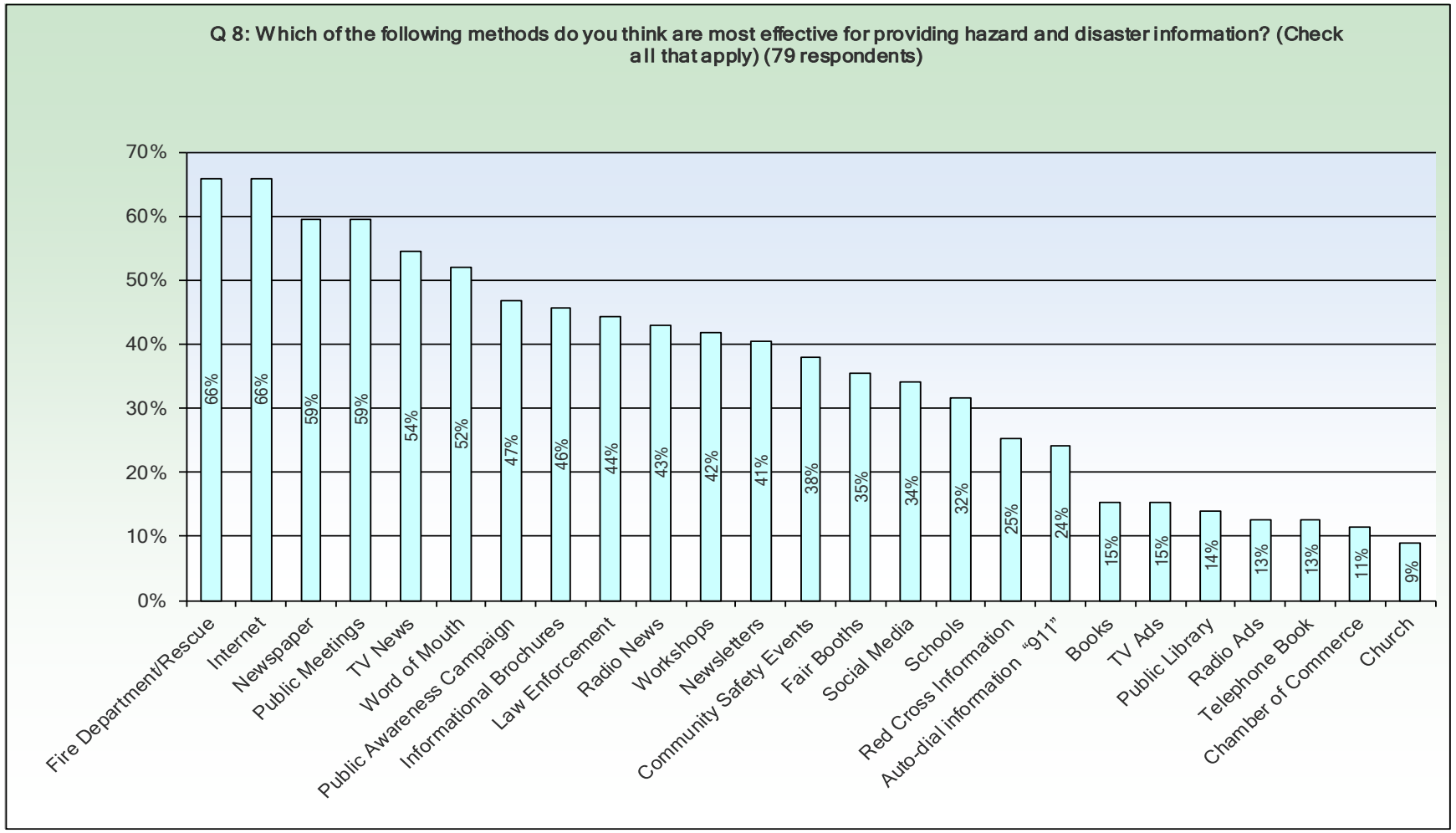
Q7: How prepared is your household to deal with a hazard event?

Answer Options	Response Percent	Response Count
Not at all Prepared	7.8%	4
Somewhat Prepared	41.2%	21
Adequately Prepared	25.5%	13
Well Prepared	17.6%	9
Very Well Prepared	7.8%	4
Not Sure	0.0%	0
answered question		51
skipped question		7

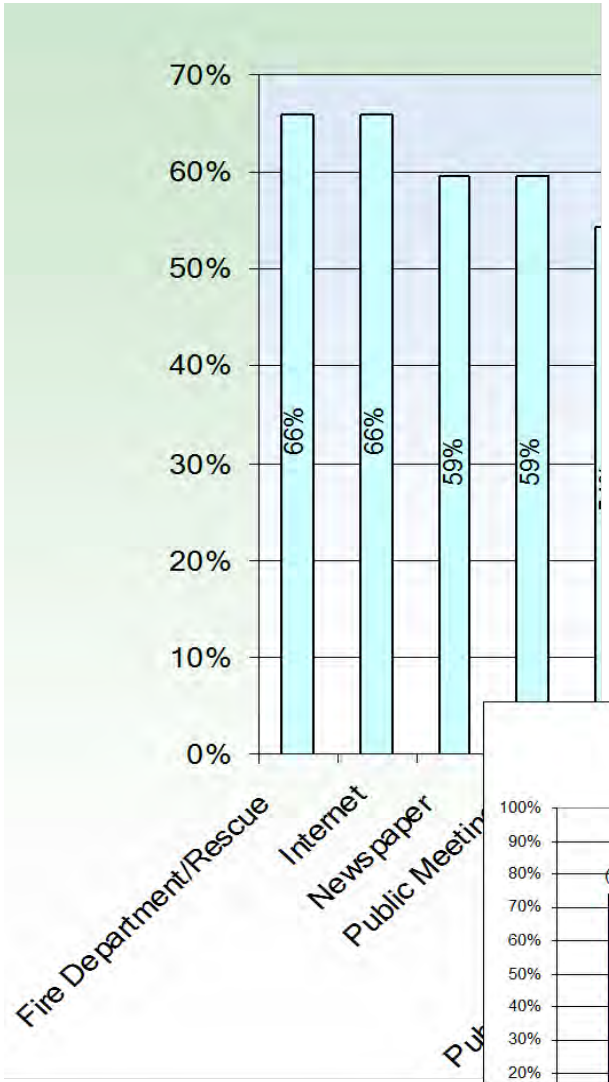
Paper surveys		
Not at all Prepared	1	
Somewhat Prepared	10	
Adequately Prepared	7	
Well Prepared	7	
Very Well Prepared	4	
Not Sure	1	30

Totals	Percent	Count
Not at all Prepared	6%	5
Somewhat Prepared	38%	31
Adequately Prepared	25%	20
Well Prepared	20%	16
Very Well Prepared	10%	8
Not Sure	1%	1




Q 8: Which of the following methods do you think are most effective for providing hazard and disaster information? (Check all that apply) (79 respondents)
70%
60%
50%
40%
30%
20%
10%
0%
66%
66%
59%
59%
54%
52%
47%
46%
44%
43%
42%
41%
38%
35%
34%
32%
25%
24%
15%
15%
14%
13%
13%
11%
9%
Fire Department/Rescue
Internet
Newspaper
Public Meetings
TV News
Word of Mouth
Public Awareness Campaign
Informational Brochures
Law Enforcement
Radio News
Workshops
Newsletters
Community Safety Events
Fair Booths
Social Media
Schools
Red Cross Information
Auto-dial information "911"
Books
TV Ads
Public Library
Radio Ads
Telephone Book
Chamber of Commerce
Church

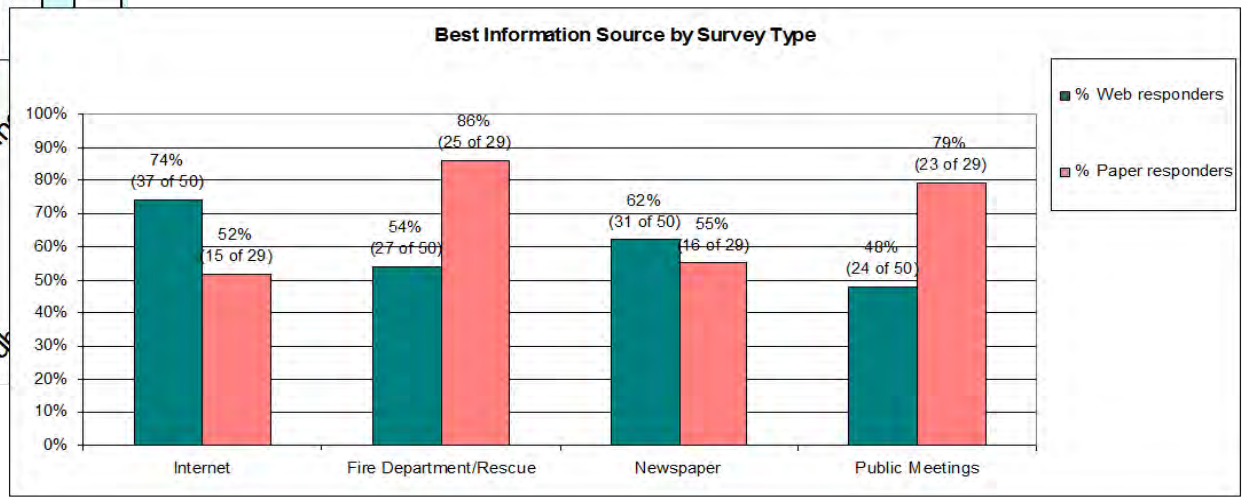
Q 8 Analysis



The majority of web responses came from Middle Trinity. All but one paper response came from isolated communities (Hyampom, Mad River).

Overall, 66% of respondents said the Fire Dept./Rescue was the best source of information. But in the Isolated communities that jumped to 86%.

74% of people with easier access to the Internet (Weaverville, Junction City, Douglas City & Hayfork) cited it as the best source, but only 52% of people in isolated communities did.

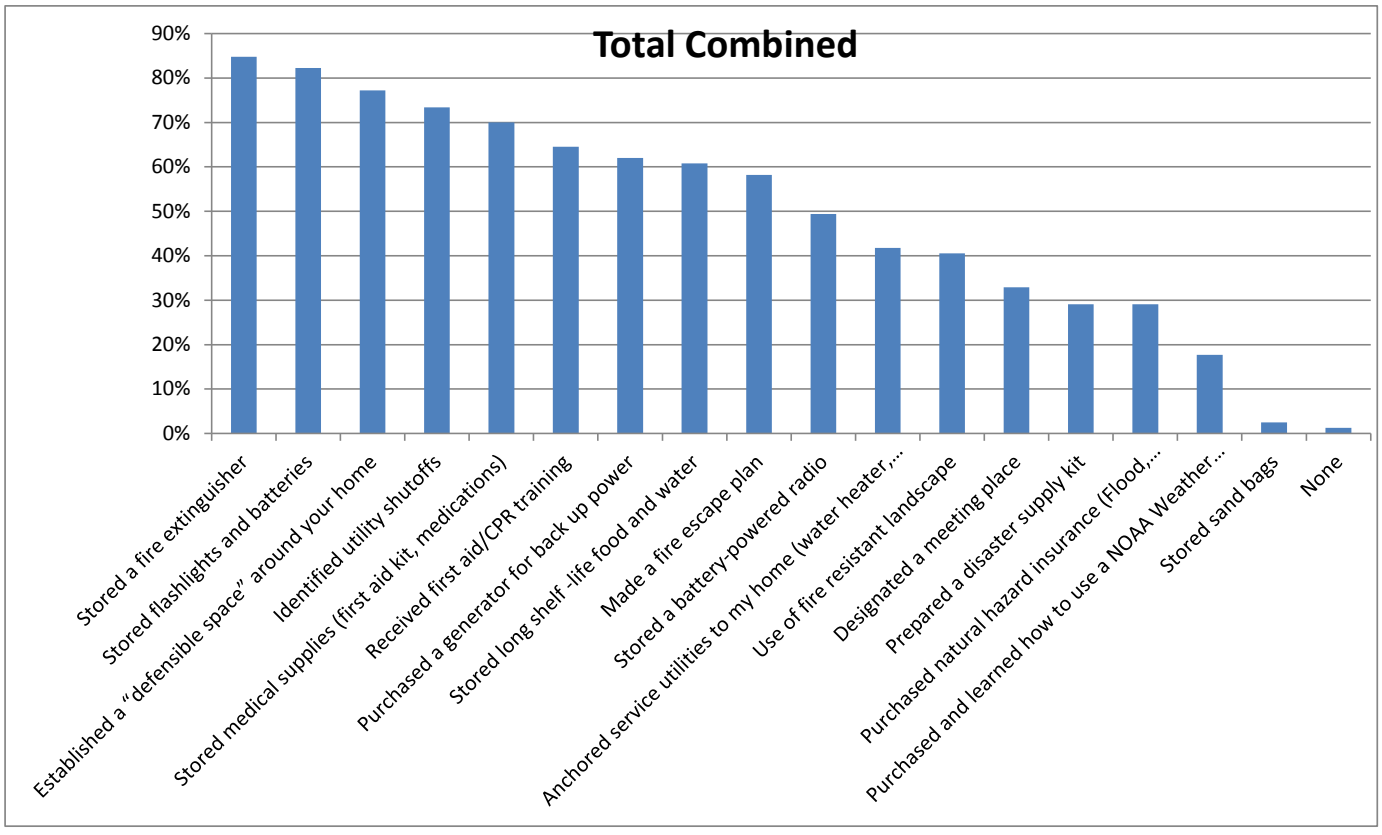


Q 9: Which of the following steps has your household taken to prepare for a hazard event? (Check all that apply)

Web Answers	Response Percent	Response Count
Stored flashlights and batteries	86.3%	44
Stored a fire extinguisher	84.3%	43
Established a “defensible space” around your home	80.4%	41
Identified utility shutoffs	72.5%	37
Stored medical supplies (first aid kit, medications)	68.6%	35
Received first aid/CPR training	62.7%	32
Made a fire escape plan	58.8%	30
Purchased a generator for back up power	56.9%	29
Stored a battery-powered radio	54.9%	28
Stored long shelf -life food and water	49.0%	25
Anchored service utilities to my home (water heater, furnace, wood stove, etc.)	47.1%	24
Use of fire resistant landscape	37.3%	19
Designated a meeting place	31.4%	16
Prepared a disaster supply kit	31.4%	16
Purchased natural hazard insurance (Flood, Earthquake, Wildfire)	31.4%	16
Purchased and learned how to use a NOAA Weather Radio	19.6%	10
Stored sand bags	3.9%	2
None	2.0%	1
	answered question	51

Paper Survey Answers, 28 answered	Response Percent	Response Count
Stored a fire extinguisher	85.7%	24
Stored long shelf -life food and water	82.1%	23
Stored flashlights and batteries	75.0%	21
Identified utility shutoffs	75.0%	21
Established a “defensible space” around your home	71.4%	20
Purchased a generator for back up power	71.4%	20
Stored medical supplies (first aid kit, medications)	71.4%	20
Received first aid/CPR training	67.9%	19
Made a fire escape plan	57.1%	16
Use of fire resistant landscape	46.4%	13
Stored a battery-powered radio	39.3%	11
Designated a meeting place	35.7%	10
Anchored service utilities to my home (water heater, furnace, wood stove, etc.)	32.1%	9
Prepared a disaster supply kit	25.0%	7
Purchased natural hazard insurance (Flood, Earthquake, Wildfire)	25.0%	7
Purchased and learned how to use a NOAA Weather Radio	14.3%	4
Stored sand bags	0.0%	0
None	0.0%	0

Total combined (79 answered question)	Response Percent	Response Count
Stored a fire extinguisher	85%	67
Stored flashlights and batteries	82%	65
Established a “defensible space” around your home	77%	61
Identified utility shutoffs	73%	58
Stored medical supplies (first aid kit, medications)	70%	55
Received first aid/CPR training	65%	51
Purchased a generator for back up power	62%	49
Stored long shelf -life food and water	61%	48
Made a fire escape plan	58%	46
Stored a battery-powered radio	49%	39
Anchored service utilities to my home (water heater, furnace, wood stove, etc.)	42%	33
Use of fire resistant landscape	41%	32
Designated a meeting place	33%	26
Prepared a disaster supply kit	29%	23
Purchased natural hazard insurance (Flood, Earthquake, Wildfire)	29%	23
Purchased and learned how to use a NOAA Weather Radio	18%	14
Stored sand bags	3%	2
None	1%	1



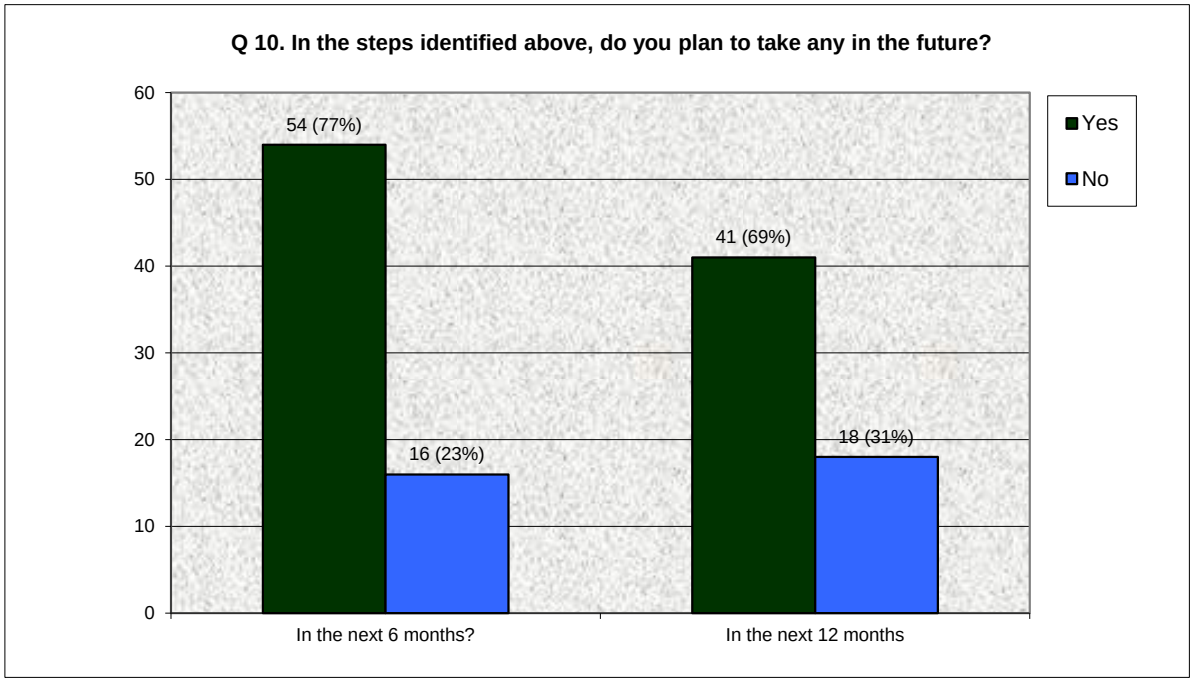
Q 10: Of the steps identified above (Q9) , do plan on taking any of these within the next 6 months?

		Yes	No	
Survey Monkey		36	9	
Paper		18	7	
	Total	54	16	70
	%	77%	23%	

In the next 12 months?

		Yes	No	
Survey Monkey		26	8	
Paper		15	10	
	Total	41	18	59
	%	69%	31%	

	In the next	In the next 12 months
Yes	54	41
No	16	18



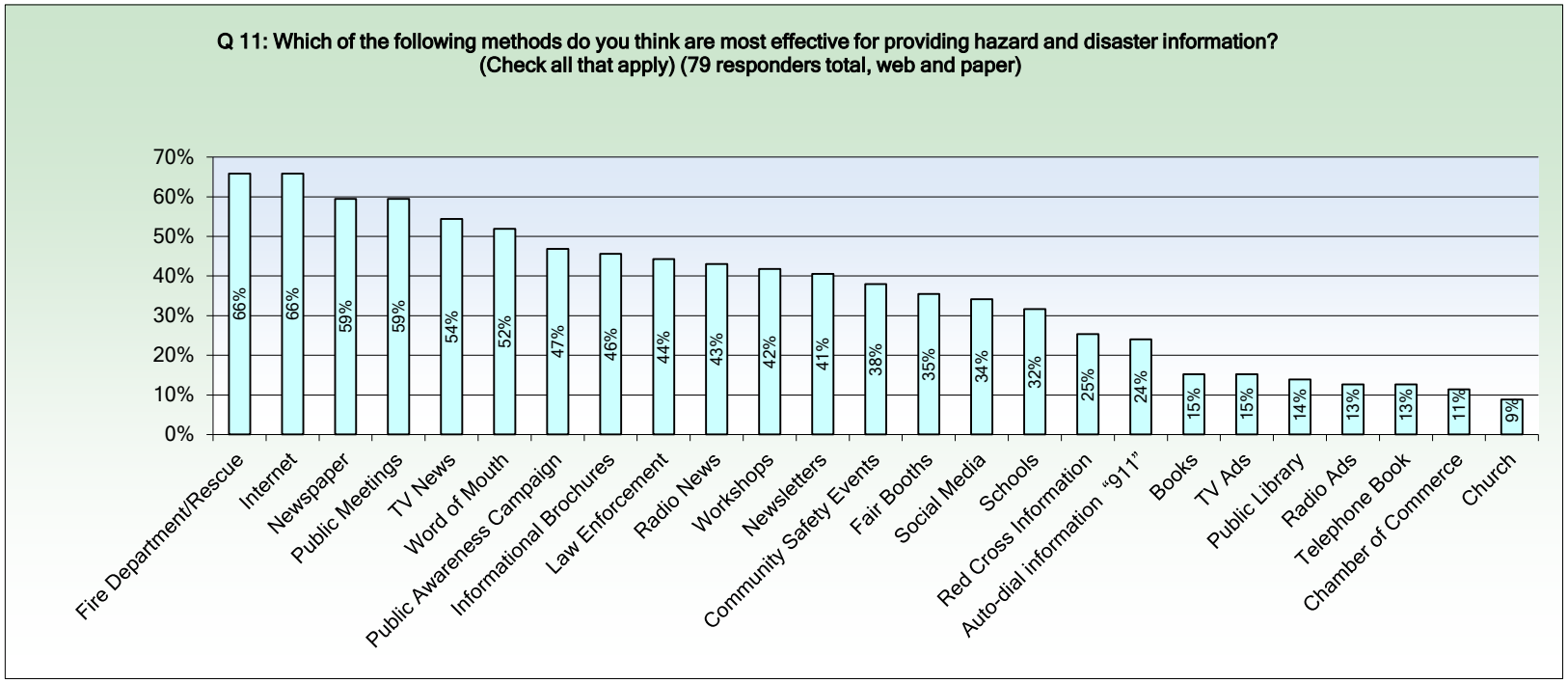
Trinity County Hazard Mitigation Planning Survey

Q 11: Which of the following methods do you think are most effective for providing hazard and disaster information? (Check all that apply)

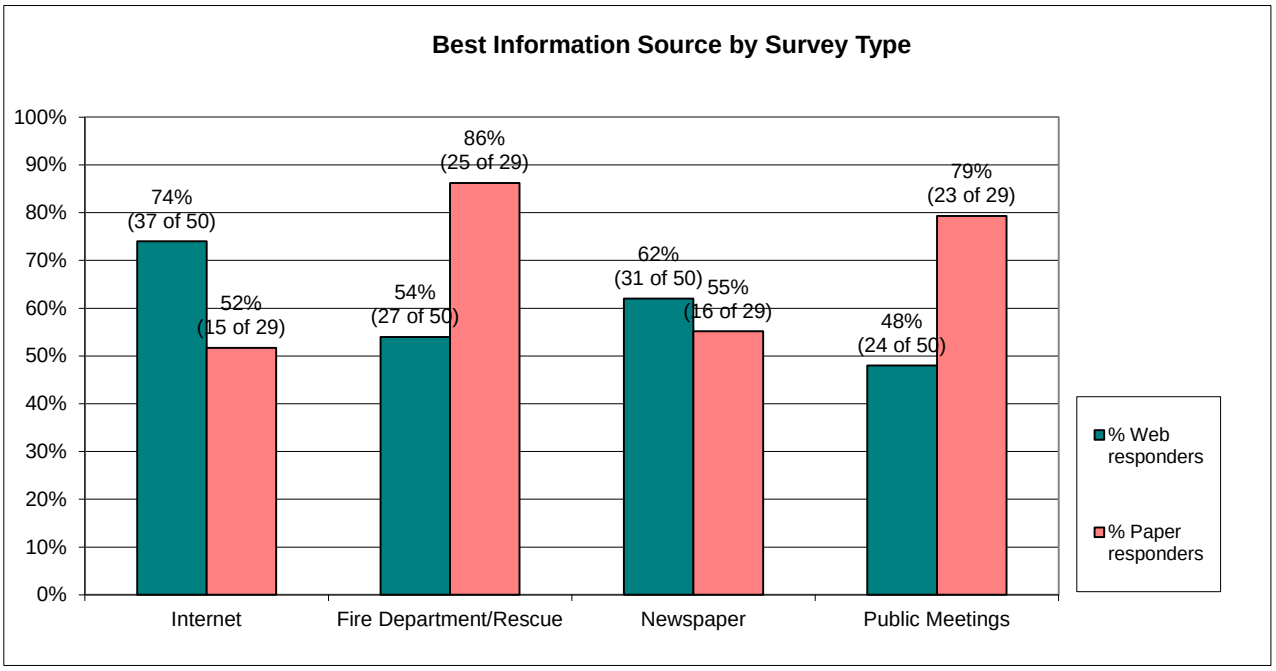
Answer Options	Web Response Percent	Web Response Count	Paper Response Count	Total Count Web & Paper
Newspaper	62.0%	31	16	47
Telephone Book	10.0%	5	5	10
Informational Brochures	46.0%	23	13	36
Newsletters	48.0%	24	8	32
Public Meetings	48.0%	24	23	47
Workshops	42.0%	21	12	33
Schools	32.0%	16	9	25
TV News	60.0%	30	13	43
TV Ads	20.0%	10	2	12
Radio News	44.0%	22	12	34
Radio Ads	18.0%	9	1	10
Internet	74.0%	37	15	52
Fire Department/Rescue	54.0%	27	25	52
Law Enforcement	44.0%	22	13	35
Church	10.0%	5	2	7
Public Awareness Campaign	52.0%	26	11	37
Books	12.0%	6	6	12
Chamber of Commerce	14.0%	7	2	9
Public Library	18.0%	9	2	11
Red Cross Information	22.0%	11	9	20
Community Safety Events	44.0%	22	8	30
Fair Booths	46.0%	23	5	28
Word of Mouth	40.0%	20	21	41
Social Media	44.0%	22	5	27
Auto-dial information "911"	26.0%	13	6	19
Other (please specify)	4.00%	2	0	2
answered question		50	29	79
skipped question		8		

Total Web & Paper Responses	Total %
Fire Department/Rescue	66%
Internet	66%
Newspaper	59%
Public Meetings	59%
TV News	54%
Word of Mouth	52%
Public Awareness Campaign	47%

Informational Brochures	46%
Law Enforcement	44%
Radio News	43%
Workshops	42%
Newsletters	41%
Community Safety Events	38%
Fair Booths	35%
Social Media	34%
Schools	32%
Red Cross Information	25%
Auto-dial information "911"	24%
Books	15%
TV Ads	15%
Public Library	14%
Radio Ads	13%
Telephone Book	13%
Chamber of Commerce	11%
Church	9%



Best Information Source	Web Survey Responses	Total Web Responders	% Web responders	Paper Survey Responses	Total Paper Responders	% Paper responders
Internet	37	50	74%	15	29	52%
Fire Department/Rescue	27	50	54%	25	29	86%
Newspaper	31	50	62%	16	29	55%
Public Meetings	24	50	48%	23	29	79%



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Trinity County Hazard Mitigation Planning Survey

Q 12: What do you feel Trinity County can do to help prepare residents for potential disasters or reduce or eliminate the impact of these hazards?

Number	Response Date	Response Text
1	Mar 4, 2014 5:48 AM	Provide more resources to local VFD's. These are the men and women that will be first and last on scene in disasters that affect their communities.
2	Feb 26, 2014 4:24 PM	Outreach with information
3	Feb 23, 2014 2:43 AM	promote more fire safety
4	Feb 21, 2014 8:21 AM	As I feel that wildfire is the most likely disaster, the County, through the road department, should reduce hazardous fuels along county roads so that in the event of a wildfire, residents and fire suppression crews can travel along the roads. The County can also financially assist property owners establish water sources and storage tanks for use by volunteer fire departments and CAL FIRE. Through the Trinity Collaborative, it can continue to work with federal land management agencies to reduce hazardous fuels adjacent to and within communities and clusters of residences. It can also give financial assistance to volunteer fire departments. And it can pass section K building code standards that facilitate construction of non-standard houses and other structures that might be more fire resistant than standard houses.
5	Feb 13, 2014 4:04 AM	Wildfire preparedness education and fuel reduction assistance provided to residents to aid in reducing fuels on private property. Also, making current local wildfire information available.
6	Feb 7, 2014 7:35 PM	Despite diminished fiscal resources, support and fund to maximum available extent VFD's, OES, public and NGO educational/informational resources ie: libraries, HRN, TCRCD, and emergency services ie: law enforcement and medical service providers
7	Feb 1, 2014 4:24 PM	Develop comprehensive plan
8	Feb 1, 2014 4:27 AM	be supportive help people prepare through public meetings newspapers
9	Feb 1, 2014 12:03 AM	Continue to educate people through all available means.
10	Jan 30, 2014 9:24 PM	Are you asking about the County of Trinity, or its citizens? Pay local researchers to each address a hazard and design a public relations campaign for each hazard. The contents of the campaign would include press releases, giveaways, etc.
11	Jan 29, 2014 7:26 AM	push water conservation and prepare an evacuation plan in case there ever is a wildfire threatening homes and lives or a town.
12	Jan 28, 2014 5:37 PM	Let them know what resources are available so they know if they're on their own and should go help their neighbor
13	Jan 28, 2014 3:37 AM	training
14	Jan 27, 2014 8:01 PM	Awareness campaign focused on what supplies and how much an average household should have.
15	Jan 26, 2014 6:06 PM	Help prepare for fire around homes.
16	Jan 26, 2014 5:45 PM	I feel that there is not enough emphasis on removing hazardous fuels on Forest Service land. Roads are being removed on FS land that would enable suppression resources to attack wildfires sooner. This needs to pushed up to congress. Educate the public on evacuation routes and how deal with emergency evacuation.
17	Jan 26, 2014 5:20 PM	Fuels management, fire prevention, good suppression policy.

18	Jan 26, 2014 5:09 PM	I would like to be assured that if there is a fire that the forestery roads would be open, since we only have one way out.
19	Jan 25, 2014 9:20 PM	Hire more staff
20	Jan 25, 2014 7:16 PM	Active participation of residents
21	Jan 25, 2014 6:13 PM	Information at post office
22	Jan 25, 2014 6:11 PM	More deputies, better news info
23	Jan 24, 2014 12:39 AM	Posters in public places (P.O., Library, Public and business b-boards, □ □ Public meetings, part of other public meetings□ □ Attachments/inserts to utility or other billings.
24	Jan 23, 2014 6:08 PM	Create focus groups in each town and ask citizens what they identify as hazards and what would they do to mitigate the dangers. The County should work with private land owners and the Federal Govt to find ways to reduce hazardous fuels, which would also provide jobs for locals.
25	Jan 23, 2014 5:22 PM	as I think wildfire is the most likely event, continue to spread the word about defensible space & landscape scale fuels treatments & continue to have local agencies like RCD & WRTC seek out funding to help landowners.
26	Jan 23, 2014 4:25 PM	Train citizens how to take care of themselves and how to help in a disastser
27	Jan 23, 2014 4:20 PM	A well-made newsletter similar to the one sent by the Trinity River foundation, that gives hazard preparedness information to families and individuals on the top 5 most likely hazards that might be encountered in Trinity County. That includes things like how to make an emergency supply and first aid kit, and resources on where to find information. A check list would be a valuable addition as well.
28	Jan 23, 2014 2:32 PM	identify and publicize known hazards. Advertise hazards with tips on how to deal with or avoid them. PUBLIC INFORMATION OFFICER POSITION TO USE INTERNET, PHONE and SOCIAL MEDIA so the public doesn't always feel in the dark. A lot of citizens feel left out and helpless when fires or murders or home invasions are happening but we cant get any facts from anywhere but a SHASTA COUNTY NEWS AGENCY!!!
29	Jan 23, 2014 6:01 AM	We need strong institutions and we need to invest in coordination amongst all of the sectors of the community in order to develop resilient systems. Having an updated General Plan is a good start!
30	Jan 23, 2014 5:59 AM	Educate people. Put pressure on forestry to thin the forest and also get rid of dead trees.
31	Jan 23, 2014 5:30 AM	Nothing you don't have any money to do the things that need to be done.
32	Jan 23, 2014 3:46 AM	Establish systems and Improve communications
33	Jan 22, 2014 11:52 PM	outreach and access to preparedness reminders and tips. Ensure time is spent planning at a governance level as well as a responder level.
34	Jan 22, 2014 11:08 PM	Educate them. Everyone, including the county, needs to recognize that you are on your own for at least 10 days and maybe longer.
35	Jan 22, 2014 10:44 PM	inform the community about the different hazards we face, what the effects could be on us as individuals, then ways for us to prepare for specific disasters.
36	Jan 22, 2014 10:23 PM	Prepare people for fire and the loss of water.
37	Jan 22, 2014 10:00 PM	Identify disaster resources by a special logo in the directories or listings? Distribute info at the food banks and commodities locations also since these recipients are least likely to have prepared.
38	Jan 22, 2014 8:44 PM	Have an informational booth at Framer's Markets, every public attendance event. Have information at the grocery stores. Initiate contests in all public schools for youth to enter with hazard preparation as the theme.

39	Jan 22, 2014 8:16 PM	Provide low cost defensible space around homes program for people to use. Allow folks to take brush etc. from clearing land to the dump at not cost. Dump could chip the materials for folks to purchase or pick up. Clear the sides of roads from growth and clean the ditches (many roads have flood areas with little rain)
40	Jan 22, 2014 3:56 PM	Provide better current and updated information on an ongoing basis. Assist people to be better prepared and not so dependent on emergency services.

Paper Surveys

1	Continue with and increase the thinning of the forest surrounding our communities.
2	Nothing
3	Don't forget about the people in South County.
4	Hold Training/informational meetings in all general areas - at least every 3 years.
5	Share emergency response plan - engage citizens thru round table planning meetings.
6	Work with STAR and the VFD. Hold Public meetings. We need a live in deputy law enforcements officer for Southern Trinity. Is there anyway hazard funds could help with this? Perhaps he/she could also serve as a disaster preparedness coordinator for our area.
7	Public meetings and email.
8	Better public awareness
9	Help us build a shelter for food storage for community folks, in case of disaster
10	Be ready to be self-sufficient
11	Ultimately, each individual is responsible for preparing their own for any disaster which might arise. The county's efforts, well intentioned, will not be effective if residents are not willing to be educated and prepared on their own.
12	Make them aware and drive it home.
13	When it snows, let the county plow the roads 24/7, and have a back road available and plowed.
14	Provide help when requested; planning for disasters
15	Community meetings
16	Have meetings
17	Have a meeting
18	Do a county wide mock disaster
19	Continuously strengthen infrastructure
20	Community based outreach. Fuel thinning around roads and community.
21	Repair and impove hazard areas. Improve ingress/egress routes to communities; have cell service in all county communities.
22	Newspaper information once a week in the Trinity Journal
23	Have a plan, rehearse the plan, stock up supplies; establish an emergency shelter and a plan for communications

Appendix C

Trinity County Hazardous Materials Incidents 2004-2013

Data from CalEMA website. http://www.calema.ca.gov/HazardousMaterials/Pages/Historical-HazMat-Spill-Notifications.aspx

Control#	Notified Date	Agency	Substance	Quantity	Type	Description	Contained	Water?	Water Way	Location	City	County	Zip	Incident Date	Time	Spill Site	Site	Injuries	Fatals	Evacs	Cleanup	Admin Agency
'13-4744	8/1/2013 12:57	Fortuna Command Center	Asphalt	Unknown	Lbs.	RP states that a belly truck went off the road the fell into Salt Creek resulting in t he release of an entire load of asphalt into the creek. The release is not contained and crews are enroute to perform assessment. Salt Creek has been impacted.	Yes	Yes	Salt Creek	Township 3S, Range 6E, Section 12, 1mi NE of Zenia	Zenia	Trinity County		8/1/2013	1215	Oil Field,Water ways	Salt Creek				Unknown	Trinity County Transportation and Planning
'13-5206	8/22/2013 9:01	Cal Trans	Unknown Petroleum Buckets	12	N/A	RP states that 12 5 gallon buckets of an unknown petroleum substance were found abandoned on the side of the road. Caller states that the substances did not leak out into the environment. Caller states that the buckets were cleaned up by a contractor. No waterways have been impacted. Caller states that the situation was remediated at 1750hrs.	Yes	No		EB Hwy 36 at MP 4.3, 1Mi East of Ruth Lake turnoff	Unincorporated county area	Trinity County		8/21/2013	800	Road					Contractor	Trinity County Transportation and Planning
'13-6048	9/25/2013 16:23	Citizen	Motor Oil	Unknown	Unknown	Caller states there is a salvage yard that has oil leaking from engine blocks and going into the soil . Caller states travel trailer and autos are being dismantled also. Caller is concerned as he feels this is an illegal operation. Caller stated that the soil has rock and is very porous which allows the oil to leech to Hayfork Creek	No	Yes	Hayfork Creek	Hwy 3 and East St	Hayfork	Trinity County	96041	9/18/2013	1400	Merchant/Business	Hayfork Creek				Unknown	Trinity County Transportation and Planning
'13-7454	12/5/2013 9:05	Trinity County Sheriff	Motor Oil	5	Qt.(s)	RP states traffic collision caused released, material flowed into the soil, FD handling containment, unknown who is handling clean up.	Yes	No		Garden Gulch St at Easter Ave	Weaverville	Trinity County	96093	12/5/2013	839	Road					Unknown	Trinity County Transportation and Planning
'12-1553	3/16/2012 14:22	CHP Redding	Diesel Fuel	Unknown	Gal(s)	Caller states a water truck was involved in a solo vehicle accident which resulted the water truck going over an embankment and into Trinity River.	Yes	Yes	Trinity River	Highway 299 at MM 35.5, closest city is Salyer	Unincorporated c	Trinity County		3/16/2012	1337	Waterways	Trinity River	1			Unknown	Trinity County Transportation and Planning
'12-2474	4/25/2012 15:32	Trinity Co SO	Herbicide, Unknown Type	2' x 200'	Sheen	The subject apparently dumped the material in the waterway causing the release, material flowed into the water and soil causing the sheen, unknown who is handling containment or clean up.	No	Yes	Unknown Creek	Rattlesnake Rd at Chrome Mine Rd	Hayfork	Trinity County	96041	4/25/2012	1200	Waterways	Unknown Creek				Unknown	Trinity County Transportation and Planning
'12-3270	6/4/2012 11:34	Citizen	Pretreated Lumber and Polystyrene	UNK	Unknown	The caller is reporting abandoned docks along the lake. These docks are breaking up and washing up on the beach around the lake. The caller advised the these docks have been there for years.	No	Yes	Trinity Lake	south of Trinity Center Marina, Mary Ave at Trinity Center	Unincorporated c	Trinity County		6/3/2012	1200	Waterways	Trinity Lake				Unknown	Trinity County Transportation and Planning
'12-3569	6/19/2012 11:52	Trinity Co. SO	Fuel		Gal(s)	A large earth moving dump truck rolled into the creek, crews on scene report pads have been placed in the creek to absorb the product	No	Yes	Hayfork Creek	Hyampom Rd. 7.5 miles west of Hwy. 3, nearest community of Hayfork	Unincorporated c	Trinity County		6/19/2012	1115	Waterways	Hayfork Creek				Unknown	
'12-3705	6/26/2012 9:11	Amoss Inc	Red Diesel	100	Gal(s)	Caller states substance was in a 390 gallon tank above the ground. Caller states the nipple on the tank snapped possibly due to snow. Caller states substance released to a soil area and ran approximately 100 ft down the hill to a spring. Caller states it's unknown when this actually occurred as this is a rural area	Yes	Yes	Spring	2.5 miles up Long Canyon at SR 3	Unincorporated c	Trinity County	96091	6/26/2012	700	Residence	Spring				Responsible Party	
'12-6818	11/9/2012 19:04	PG&E Eureka	Oil - Mineral Type, Less than 50 ppm	4	Gal(s)	Pole was struck by a vehicle knocking down a transformer causing the release, material flowed onto soil, RP handled containment and NRC performed clean up.	Yes	No		40 4.276 N 123 29.441 W (Lone Pine Ranch)	Zenia	Trinity County		11/9/2012	1100	Merchant/Business					Contractor	Humboldt County Environmental Health
'12-7202	11/29/2012 9:57	Shasta Power Plant	Transformer Oil	UNK	Gal(s)	Caller is reporting that potentially due to heavy rains, some transformer residue, a small amount of mineral oil washed into the back bay. Absorbent booms have been utilized to contain the release. Maintenance crews are en route to clean-up the spill.	Yes	Yes	Trinity Power Plant Tail Bay > to the Trinity River	Trinity Power Plant Road	Lewiston	Trinity County		11/29/2012	915	Other	Trinity Power Plant Tail Bay > to the Trinity River				Responsible	Trinity County Transportation and Planning
'12-7367	12/3/2012 10:57	Citz	Suds	Unknown	Unknown	Have a storage tank that is filled with by pumping water from the creek. In the storage tank, there is approximately 1200 gallons of water and about 1 foot high of suds are on top of the water. It is unknown what is causing the suds. It is unknown if the creek has suds at this time, so it is unknown what the origination of the suds is at this time. The creek water is used for drinking water after it moves through a filter system.	Yes	Yes	Duncan Creek	400 Summit Creek Rd	Hayfork	Trinity County		12/3/2012	1000	Residence	Duncan Creek				Unknown	Trinity County Transportation and Planning
'12-7810	12/22/2012 9:42	CHP Redding	Diesel	50	Gal(s)	Caller states: A big rig ran into a rock slide and ruptured the fuel tank causing the release.	Yes	No		299 at MP 10.73	Unincorporated c	Trinity County		12/22/2012	752	Road					Unknown	Trinity County Transportation and
'11-1505	3/13/2011 17:39	Private citizen	Diesel smell	U/K	Unknown	*****HISTORICAL INCIDENT****The RP is reporting a smell of diesel from the waterway since last Wednesday and has taken 3 water samples but is holding them at this time. RP suspects that this is coming from a neighboring property. ****HISTORICAL INCIDENT*******	Unknown	Yes	unknown stream that flows to Post Creek	540 Pine Forest Drive	Trinity Pines	Trinity County	96041	3/9/2011	1630	Waterways	unknown stream that flows to Post Creek				Unknown	Trinity County Transportation and Planning

Control#	Notified Date	Agency	Substance	Quantity	Type	Description	Contained	Water?	Water Way	Location	City	County	Zip	Incident Date	Time	Spill Site	Site	Injuries	Fatals	Evacs	Cleanup	Admin Agency
'11-1635	3/18/2011 15:24	Citz	Trash Debris	Unknown	Unknown	The reporting party advises a person who lives across the road comes across and dumps her trash debris in the creek. Debris contains metal, lawn mower etc. It appears to be debris from a yard cleanup project. This has been an ongoing issue for the past week. The reporting party contacted local law enforcement who told him it was a civil matter.	Yes	Yes	Weaver Creek	671 Tucker Hill Rd	Douglas City	Trinity County		3/18/2011	1520	Residence	Weaver Creek				Unknown	Trinity County Transportation and Planning
'11-1670	3/19/2011 19:41	PG&E	Transformer Oil	UNK	Unknown	Snow on the transformer caused a failure and spill of oil. The transformer is buried under the snow. There could be as much as 10 gallons of oil spilled.	Yes	No		4931 Hwy 36	Mad River	Trinity County		3/19/2011	1636	Other					Reporting P	Trinity County Transportation and Planning
'11-2128	4/2/2011 10:45	Citizen	Wood Preservative	UNK	Gal(s)	The neighbor's fence next door is leeching wood preservative in an adjacent creek. The creek is currently flowing heavily due to storms.	Unknown	Yes	Carter Gulch Creek (Seasonal)	1481 Brady Rd (reporting party), spill is at Meadow Lane	Hayfork	Trinity County	96041	4/1/2011	1630	Residence	Carter Gulch Creek (Seasonal)				Unknown	Trinity County Transportation and Planning
'11-2851	5/8/2011 16:06	PG & E	Mineral Oil	5	Gal(s)	A transformer overheated and popped with overspray. The release is to the dirt at the bottom of the pole.	Yes	No		Del Loma RV Park, 21720 California 299	Del Loma	Trinity County		5/8/2011	1130	Residence					Contractor	Trinity County Transportation and Planning
'11-3766	6/23/2011 11:32	Redding Fish & Game	Paint	2	Gal(s)	RP states that there is a couple cans of paint in the creek.	Unknown	Yes	Ditch Gulch	Hwy 3 and Hwy 36 Intersection	Hayfork	Trinity County		6/23/2011	1100	Waterways	Ditch Gulch				Unknown	Trinity County Transportation and
'11-6057	10/11/2011 12:23	citizen	Trash	Unknown	Unknown	RP states that individuals are dumping trash into Post Creek. The creek is a seasonal creek with trout in the spring and winter time.	Unknown	Yes	Post Creek	Post Mountain, Hwy 36 Trinity Pines to Post Creek	Unincorporated c	Trinity County		10/4/2011	800	Waterways	Post Creek				None	Trinity County Transportation and Planning
'11-6717	11/11/2011 12:54	Trinity County Sheriff	Diesel	5	Gal(s)	The caller is reporting a container of diesel fell off a vehicle and spilled in road and into a culvert. There is no water in the culvert at this time.	Unknown	No		Pine Forest Drive, Post Mountain	Unincorporated c	Trinity County		11/11/2011	1221	Road					Fire Dept.	Trinity County Transportation and Planning
'11-7079	11/29/2011 17:15	Weaverville CHP	Liquid Propane Gas	0	Lbs.	The fully loaded tanker truck is partially on it's side, and does not appear to have any leaks at this time as it is hanging over the river and blocking both lanes of SR 299W	Yes	No		MM 33.00 in Trinity County, nearest community is Helena	Unincorporated c	Trinity County		11/29/2011	1648	Road					Unknown	Trinity County Transportation and Planning
'10-0808	1/30/2010 3:32	NRC	unknown oil	unknown	N/A	per NRC fax, ///POTENTIAL RELEASE///POTENTIAL RELEASE: "Caller reported a store has an above ground day tank that maybe leaking. The caller stated that they could smell fumes." Remedial actions: None. Additional Information: "Caller stated that they had to leave area and would contact the Sheriffs Department."	Unknown	Unknown		Highway 299 at Canyon Creek Road, Junction City store	Junction City	Trinity County		1/30/2010	300	Service Station					Unknown	Trinity County Transportation and Planning
'10-1472	3/1/2010 7:48	CHP Redding	Mixture of Gasoline or Motor Oil	Unknown	Unknown	***POTENTIAL RELEASE*** Caller states a passenger vehicle ran off the road, went 300 feet off a cliff and into Trinity River.	Unknown	Yes	Trinity River	South of Highway 299, 1.5 miles down Steiner' Flat Road, closest city is Douglas City or Weaverville	Unincorporated c	Trinity County		2/28/2010	2357	Road	Trinity River				Unknown	Trinity County Transportation and Planning
'10-1735	3/12/2010 10:50	CHP Redding	Vehicle into creek	Unknown	Unknown	RP states that a passenger vehicle entered an unnamed creek due to a motor vehicle accident. Unknown if there is any release at this time.	Unknown	Yes	unnamed creek	Hwy 299 at Salyer, mile marker 1.2 in Trinity County	Unincorporated c	Trinity County	95563	3/10/2010	1004	Waterways	unnamed creek	1			Unknown	Trinity County Transportation and Planning
'10-1754	3/12/2010 18:36	Redding CHP Comm Center	Petroleum Products	30	Gal(s)	While recovering a vehicle from a previous accident another vehicle was discovered underneath the vehicle being recovered.	No	Yes	Trinity River	Mile Marker 0.67 Hwy 299W	Salyer	Trinity County		3/12/2010	1548	Road	Trinity River	1	2		Unknown	Trinity County Transportation and Planning
'10-2782	5/4/2010 8:51	NRC	Diesel	Unk	Gal(s)	Quoting the NRC report: "Caller stated there is a spill of diesel at a gas and diesel fueling station. Caller stated there is a large amount of fuel spilled onto the ground at this station."	No	No		Hwy 3	Hayfork	Trinity County	96041	5/3/2010	1400	Service Station					Unknown	Trinity County Transportation and Planning
'10-3329	5/31/2010 13:54	US Forest Service	Vehicle fluids from accident	Unknown	Unknown	RP states that vehicle fluids from a vehicle accident have entered a finger creek that feeds Trinity Lake. The vehicle has been removed from the site. There is a visible sheen on the water. RP has no idea when the actual incident occurred.	Yes	Yes	Unnamed creek	Trinity Ballpark above Trinity Center	Unincorporated c	Trinity County		5/31/2010	1350	Waterways	Unnamed creek				US Forest Se	Trinity County Transportation and Planning
'10-4923	8/17/2010 12:01	Citizen	Unknown	UNK	Unknown	The caller is reporting that some one has put plastic culvert pipes in the creek causing a foam in the water. These pipes are from a construction yard. The caller does not believe the owner of the yard in responsible.	Unknown	Yes	Weaver Creek	Reservoir Road near Main Street	Weaverville	Trinity County		8/15/2010	1200	Waterways	Weaver Creek				Unknown	Trinity County Transportation and Planning
'10-6990	11/20/2010 14:58	PG&E	Oil - Transformer type, less than 50 ppm PCB	1	Pt.(s)	Transformer failed and burst, release went on private property, affected media was earth , grass and pool water, RP handled containment and partial clean up, private contractor will respond to do pool	Yes	No		Flame Tree Rd (Lot 5)	Trinity Village	Trinity County		11/19/2010	1630	Residence					Contractor	Trinity County Transportation and Planning
'09-0360	1/15/2009 16:45	US Forest Service	Gasoline Fuel	20	Gal(s)	Due to a traffic accident wherein a vehicle rolled off the roadway and down a hill, approximately 20 gallons of gasoline has leaked from the vehicle gas tank and into a water shed.	No	Yes	Rattle Snake Creek Water Shed, unknown where it leads	Hwy 36, 3 miles east of Forest Glen, MPM: 21.3	Hayfork	Trinity County		1/15/2009	1621	Road	Rattle Snake Creek Water Shed,	0	0	0	Unknown	Trinity County Transportation and Planning

Control#	Notified Date	Agency	Substance	Quantity	Type	Description	Contained	Water?	Water Way	Location	City	County	Zip	Incident Date	Time	Spill Site	Site	Injuries	Fatals	Evacs	Cleanup	Admin Agency
'09-2397	3/20/2009 8:43	CHP Redding	Diesel	10	Gal(s)	RP states that a truck was involved in an accident that punctured a saddle tank causing the release of diesel onto the dirt shoulder area. No waterways	Yes	No		HWY 299 West just west of Red Hill Rd	Unincorporated d	Trinity County		3/20/2009	636	Road		0	0	0	Unknown	Trinity County Transportation and Planning
'09-4795	7/3/2009 16:15	DF&G	Motor Oil	Unknown	Unknown	***HISTORICAL*** RP states 10 to 15 cars were dumped into Onion Creek, Trinity County. The dumping was believed to be done 06/22/2007.	Unknown	Yes	Onion Creek	5 miles up the road past Gold Field Campground from Coffee Creek Road.	Unincorporated d	Trinity County		6/22/2007	1200	Waterways	Onion Creek	0	0	0	Unknown	Trinity County Transportation and Planning
'09-4888	7/8/2009 13:07	CHP - Redding	Diesel	Unknown	Gal(s)	Release occurred due to logging truck accident. Release of Diesel fuel entered the Trinity River.	No	Yes	Trinity River	Highway 299 Just west of Lime Point	Junction City	Trinity County		7/8/2009	1241	Road,Waterways	Trinity River	1	0	0	Unknown	Trinity County Transportation and
'09-5764	8/19/2009 10:06	Fish & Game	Construction Debris (Silt / Oil / Paint)	Unknown	Unknown	Caller states a road crew during clean-up washed the substances over the bank and into the creek. Caller states Fish and Crayfish were killed in the creek. Caller states information came from a third party who reported the release at the Fish & Game office.	Unknown	Yes	Unnamed Creek/ SF Trinity River	Hyampom Rd at the Nine Mile Bridge	Hyampom	Trinity County		8/19/2009	930	Waterways	Unnamed Creek/ SF Trinity River	0	0	0	Unknown	
'09-7507	11/9/2009 7:15	CalTrans Dist 2	Diesel	70	Gal(s)	Caller states a Safeway truck struck a rockwall and punctured the saddle tank. Caller states substance released to the shoulder area of the roadway. Caller states there is a culvert near the incident location but none of the released material has reached the culvert.	Yes	No		Hwy 299 at MM 41.7	Unincorporated d	Trinity County		11/9/2009	458	Road		0	0	0	Unknown	Trinity County Transportation and Planning
'09-7604	11/12/2009 12:57	CHP-Redding	Diesel	200	Gal(s)	This release is due to an over turned big rig	Unknown	No		Hwy 3 MM 55.1	Trinity Center	Trinity County		11/12/2009	1230	Road		0	0	0	CalTrans	
'09-8552	12/24/2009 7:33	CHP Redding	Diesel	35	Gal(s)	Jack knifed big rig punctured the fuel tank on the rig resulting in a diesel fuel release to the dirt shoulder. No waterway impacted at this time. CHP Log # 49	Yes	No		SR299 and Poker Bar Rd	Unincorporated A	Trinity County		12/24/2009	651	Road					Unknown	Trinity County Transportation and Planning
'08-0648	1/23/2008 13:29	Redding CHP	Diesel	10	Gal(s)	Big rig lost its load.. A crane came off the back of rig and fell into river. Substances were released from the crane. Crane is about 1000 feet down from roadway.	No	Yes	Trinity River	Hwy 299 W @ MM 2.50	Salyer	Trinity County		1/23/2008	813	Road	Trinity River	0	0	0	Unknown	Trinity County Transportation and Planning
'08-2155	3/18/2008 18:25	CHP-Redding	Gasoline	15-25	Gal(s)	Product spilled onto a dirt shoulder due to a traffic collision.	Yes	No		Highway 36 at MM 30.8	Mad River	Trinity County		3/18/2008	1611	Road		0	0	0	CalTrans	Trinity County Transportation and
'08-2185	3/19/2008 16:15	CHP	Oil	UNK	Unknown	The caller is reporting a vehicle into the river. There is a very small amount of oil that leaked from the vehicle.	Unknown	Yes	Trinity River	Corral Bottom Rd. at Hwy 299W	Unincorporated d	Trinity County		3/19/2008	1501	Waterways	Trinity River	0	0	0	Unknown	Trinity County Transportation and Planning
'08-3926	6/2/2008 10:06	CHP-Redding	Diesel	100	Gal(s)	Release is a result of a traffic collision	Yes	No		W/B S/R299 at MPM 37.29 Trinity Co	Weaverville	Trinity County		6/2/2008	903	Road		0	0	0	CalTrans	Trinity County Transportation and Planning
'08-4997	7/8/2008 15:46	CHP	Diesel	30	Gal(s)	A big rig overturned and fuel leaked from fuel tank.	Yes	No		Hwy 3 south of Siskiyou/Trinity County line	Unincorporated d	Trinity County		7/8/2008	1433	Road		0	0	0	Unknown	Trinity County Transportation and Planning
'08-6060	8/19/2008 15:51	Private Citizen	Oil Product	UNK	Gal(s)	*********Historical Spill**********Storage tank used to be on the site two years ago and the tank was moved one year ago. This weekend the caller noticed the ground to be stained with the product at least 5 feet by 7 feet. Unknown if it got to a watershed. This spill is a possible turn around spot or landing area.	Unknown	No		Road 29-28 headed north from the 35 Road	wildwood	Trinity County		8/17/2008	1200	Other		0	0	0	Unknown	Trinity County Transportation and Planning
'08-6574	9/9/2008 9:33	CHP	Hydraulic Fluid	40	Gal(s)	A big rig caught fire and hydraulic fluid spilled from the vehicle.	Yes	No		Hwy 3 at MPM 19.75 near Weyerville	Unincorporated d	Trinity County		9/9/2008	741	Road		0	0	0	Unknown	Trinity County Transportation and Planning
'08-6640	9/10/2008 18:50	CHP Redding	Diesel Fuel	50	Gal(s)	Due to a overturned big rig carrying plywood, diesel fuel was spilled onto a dirt shoulder.	Yes	No		Hwy 299 near Prairie Creek at MM 25.77	Weaverville	Trinity County		9/10/2008	1607	Road		0	0	0	Contractor	Trinity County Transportation and Planning
'07-0343	1/16/2007 13:56	NRC	Contaminated water	UNK	Unknown	CALLER STATED THAT THE DRINKING WATER IS CONTAMINATED IN THE MOBILE HOME PARK AND THERE ARE SEVERAL PEOPLE THAT WENT TO THE HOSPITAL WITH STAPH INFECTIONS.	Unknown	Yes	Rush Creek	7420 Rush Creek Rd	Lewiston	Trinity County	96093	4/1/2006	800	Other	Rush Creek	0	0	0	Unknown	Trinity County Transportation and Planning
'07-0988	2/14/2007 9:24	Priv Citz	Unknown beige substance	Unk	Unknown	Bubbly substance appears to be beige, greasy and clumpy. Unknown source, possibly bubbling up from the bottom of the creek.	Yes	Yes	Swift Creek	100 yds up from Clair Engle (Trinity Lake) on Swift Creek	Trinity Center	Trinity County		2/11/2007	1700	Road	Swift Creek	0	0	0	Unknown	Trinity County Transportation and Planning
'07-2521	4/25/2007 9:58	UPS	Diesel	100	Gal(s)	A driver hit an object in road and punctured fuel tank.	Yes	No		Hwy 299 at Junction City	Junction City	Trinity County		4/25/2007	345	Road		0	0	0	Contractor	Trinity County Transportation and
'07-3756	6/21/2007 19:04	Private Citizen	unknown	unknown	Unknown	Milky color is in the river.	No	Yes	Trinity River area	New River Bluff and Burt Ranch Road	Salyer	Trinity County	95363	6/13/2007	900	Waterways	Trinity River area	0	0	0	Unknown	Trinity County Transportation and Planning
'07-6057	10/5/2007 8:18	Oregon Mountain	Hydraulic Oil	unk	Gal(s)	Screening plant line had a leak and the oil leaked onto the ground.	Yes	No		Hwy 3 and 299	Douglas City	Trinity County		10/5/2007	800	Merchant/Business		0	0	0	Reporting P	Trinity County Transportation and
'07-6091	10/7/2007 15:39	CHP- Redding Area	Gasoline	40	Gal(s)	Solo pick-up went off the road and fell 100 feet on its top into a creek.	Yes	Yes	Rush Creek	Rush Creek RD off of NB HWY 3 - 4.5 miles down Rush creek road from Hwy 3	Lewiston	Trinity County		10/7/2007	1436	Other	Rush Creek	0	1	0	Unknown	
'06-0303	1/12/2006 13:31	Redding CHP Communications Center	Diesel Fuel	80	Gal(s)	Due to traffic collision involving a big rig that went approximately 40 feet over the side of an embankment, the fuel tank was ruptured causing approximately 40 gallons of diesel fuel to leak onto the ground. Driver of the big rig has minor injuries as a result of the traffic collision.	Yes	No		SR 299W at Castle Rd	Weaverville	Trinity County		1/12/2006	1247	Road		1	0	0	CalTrans	Trinity County Transportation and Planning

Control#	Notified Date	Agency	Substance	Quantity	Type	Description	Contained	Water?	Water Way	Location	City	County	Zip	Incident Date	Time	Spill Site	Site	Injuries	Fatals	Evacs	Cleanup	Admin Agency
'06-0308	1/12/2006 15:26	ERTS	Diesel	100	Gal(s)	A tractor trailer rig involved in a traffic accident.	Yes	No		Hwy 299 & Castle Road	Weaverville	Trinity County		1/12/2006	1320	Road		0	0	0	Contractor	Trinity County Transportation and
'06-1549	3/14/2006 13:34	CHP Redding Comm Center	Diesel	25	Gal(s)	Release was from the fuel tank was caused by a traffic accident. An unknown amount of fuel entered the near by river.	Unknown	Yes	Trinity River	Westbound 299 @ MM 30.1 the nearest town is Big Flap, and is 15 miles west of Weaverville	Unincorporated d	Trinity County		3/14/2006	1145	Road	Trinity River	0	0	0	CalTrans	Trinity County Transportation and Planning
'06-1898	3/31/2006 10:12	CHP Redding	Diesel	Unknown	Unknown	Substance was released from the saddle tank of a big rig due to it going over the side of an embankment.	No	Yes	Unknown Creek	Hwy 299 at MM 36	Unincorporated d	Trinity County	96094	3/31/2006	853	Waterways	Unknown Creek	0	0	0	CalTrans	Trinity County Transportation and Planning
'06-4963	8/19/2006 21:11	NRC	Natural Gas	Unk.	Lbs.	Per NRC report: "The caller reported a line break on transmission line 177 due to unknown causes. Damage will exceed 50,000." Remedial actions: "Repairs are being determined." Additional Information: "Caller did not know if the pipeline was below or above ground. Caller had limited information. No additional information."	Yes	No		Transmission Line 177	Mad River	Trinity County		8/19/2006	1530	Other		0	0	0	Unknown	Trinity County Transportation and Planning
'06-7193	12/6/2006 8:10	CHP	Diesel	100	Gal(s)	Release from a Traffic accident involving a semi-truck	No	No		Hwy 299 mile marker 16.85 Trinity County	Del Loma	Trinity County		12/6/2006	738	Road		1	0	0	CalTrans	Trinity County Transportation and Planning
05-2888	5/15/200512:04:09 PM	DFG	Kerosene	175	Gal(s)	The kerosene was spilled onto the ground, has soaked into the soil and is showing up in Hayfork Creek. A tank was vandalized last night and discovered this morning. There may be some downstream drinking water usage of Hayfork Creek.	Yes		Hayfork Creek	Coral St. near Clinic Rd.	Hayfork	Trinity County		5/15/2005	0	0	Merchant/ Business	0	0	0	Unknown	Trinity County Transportation and Planning
05-3654	6/18/200512:15:07 AM	CHP-Redding	Gasoline	89	Gal(s)	Caller advised party was pumping gas at a gas station and drove away from pump with the nossel attached causing gasoline to spill	Yes			Washington at 299 W at 76 Station in Weaverville	Weaverville	Trinity County		6/17/2005	0	0	Merchant/ Business	0	0	0	Trinity Coun	Trinity County Transportation and Planning
05-4465	7/28/200509:31:33 AM	NRC	Diesel	100	Gal(s)	The caller stated that due to an auto accident, a big rig spilled material from its truck.	Yes			Hwy 299 West	Unincorporated d	Trinity County		7/28/2005	0	0	Road	0	0	0	Contractor	Trinity County Transportation and
05-4610	8/4/200505:12:31 PM	CHP	Diesel	50	Gal(s)	A punctured saddle tank on a big rig caused the release. CHP Log#312	No			SR299W JOE of Lewiston	Unincorporated d	Trinity County		8/4/2005	0	0	Road	0	0	0	CalTrans	
05-5242	9/9/200506:40:54 AM	DFG	Hydraulic Fluid	50	Gal(s)	Last night, a water truck relative to some construction at the Oddfellows Camp, drove into the creek. The vehicle has been removed. They are trying to absorb the spill with straw. This is from an anonymous caller on the DFG CalTip line.	Yes		Grass Valley Creek	Highway 299 near Trinity Dam Blvd.	Unincorporated d	Trinity County		9/9/2005	0	0	Waterways	0	0	0	Unknown	Trinity County Transportation and Planning
05-6082	10/21/200511:57:29 AM	CHP-Redding Comm Center	Gasoline	unk	Gal(s)	Release is from a pump at the service station that has failed. Service Station personnel put kitty litter on the release.	Yes			Union 76 @ Trinity Dam Blvd.	Lewiston	Trinity County		10/21/2005	0	0	Service Station	0	0	0	Store	Trinity County Transportation and Planning
04-2867	6/1/200409:23:00 AM	DFG, Hayfork Game Warden	Diesel	1000	Gal(s)	** Historical Release** The amount of the release is unconfirmed. It was released as a result of a tank malfunction. The release went into a gravel area and drain which flows to Coffee Creek. Clean up is complete. This occurred sometime during the week of May 10-14, but was just reported to DFG.	Yes		Coffee Creek	Highway 3, 10-12 miles north of Trinity Center	Unincorporated d	Trinity County		5/12/2004	0	0	Waterways	0	0	0	Responsible	Trinity County Transportation and Planning
04-3183	6/17/200404:30:38 PM	Humboldt Co. Environmental Health	Unknown Oil	0	Gal(s)	Released from a car crushing activity. Lamb Creek is a tributary to Mad River. The person in Item 1b called the reporting party with this information. The Mad River flows from Trinity Co. into Humboldt Co. so the caller believed that the substance has flowed into Humboldt Co.	Unknown		Lamb Creek	3 miles east of the Trinity/Humboldt Co. line	Unincorporated d	Trinity County		6/17/2004	0	0	Merchant/ Business	0	0	0	Unknown	Trinity County Transportation and Planning

Appendix D

Trinity County Mitigation Actions

Trinity County Mitigation Actions

The Steering Committee voted on their top four actions after the January 2015 meeting. Below are the results. The actions that did not receive any votes, are still important and should be reviewed each year as priorities and funding abilities change. The action numbers (1G, etc.) relate to the goal that is supported and do not indicate any type of rank. The number of votes column indicates the rank of importance of the action.

Goal 1: Significantly reduce injuries and loss of life.
Goal 2: Minimize damage to structures and property, as well as disruption of essential services and human activities.
Goal 3: Protect the environment.
Goal 4: Promote hazard mitigation as an integrated public policy and as a standard business practice.

The top three actions must be completed as required by FEMA and are not subject to votes.

Hazard and Action	Number of votes
Coordinate annual review of multi-hazard mitigation plan. (Required by FEMA)	n/a
Adopt multi-hazard mitigation plan in safety element of general plan. (Required by FEMA)	n/a
Develop mitigation page on County's website to host final version of multi-hazard mitigation plan and keep hard copies of final plan available in library. (Required by FEMA)	n/a
2F. Multi-hazard – Identify, develop and secure funding to bring existing repeater sites up to current standards, including, but not limited to, weather-proofing, security fencing, cameras, and design specifications.	8
1G. Wildfire/Multi-hazard – Identify, develop and secure funding to explore and create: a centralized GIS mapping of water sources for firefighting, structure location, bridges, and all County infrastructure and services necessary for emergency response; ground-truthing and updating such a system; and communications between local and visiting resources regarding the system.	6
1F. Loss of Communications – Identify, develop, secure funding and implement access to redundant communications such as "COW" repeaters, amateur radio systems, land lines, cell boosters, "Code Red" web service and any other methods available not only for first responders and agencies involved in disaster response, but also for county residents.	5
3C. Multi-hazard (Wildfire/Drought/Climate change/Flood) – Improve watershed and forest health through actions to reduce illegal water diversions, fire hazards, and unsustainable agricultural practices.	5
1A.Wildfire/Multi-hazard - Develop and maintain a Local Hazard Mitigation Plan(s) for all of Trinity County's Communities at Risk that includes, but is not limited to: Identify and publicize, for each community, potential safety zones, evacuation routes and potential emergency shelter locations. Evacuation routes and safety zone location shall be kept at the Office of Emergency Services, which is responsible for the evacuation process. (SE)	4
3B. Wildfire - Collaborate with the Trinity County Fire Safe Council to identify, develop, and secure funding to implement the CWPP for neighborhood fire/fuel reductions programs and landscape-scale fuels treatments. (SE)	4
4H. Drought – The County shall develop a Water Policy which shall include, but not be limited to, an inventory of County water resources and methods of accessing them, water conservation policy definitions and use limits including what constitutes wasting water, and all pertinent information discovered during the course of creating the Policy.	4
4A. Earthquake/Dam Failure/Multi-hazard – Identify, develop and secure funding to educate residents on hazards specific to the areas where they reside (earthquake; dam failure; flooding; drought) as well as emergency preparedness and the need for self-reliance in general.	3
1E. Multi-Hazard – Explore the feasibility of early notification systems including reverse 911 and a 211 system, which allows residents to call in to one central location for recorded disaster updates and information.	2

Hazard and Action	Number of votes
2A. Wildfire - Participate in the Trinity County Fire Safe Council and Trinity County Fire Chief's Association to educate the public on the importance of establishing and maintaining defensible space as a part of a cohesive wildfire management strategy for Trinity County. (SE)	2
1C. Widespread Disease – Identify develop and secure funding to strengthen early warning systems by consistent surveillance, testing, diagnosis and reporting of suspected and confirmed infectious disease to the Trinity County Public Health Department by medical providers on a local and regional basis.	1
2B. Flood – Explore, identify, develop and secure funding to address Trinity Hospital flooding from Garden Gulch culvert overflow. Specific to Safety Element: Work with local, state and federal agencies to implement site-specific flood hazard planning, forecasting, and flood mitigation measures.	1
3A. Wildfire – Encourage owners of existing public and private roads to provide identification signage for emergency access purposes. (SE)	1
4C. Widespread Disease - Incorporate existing and future public health plans into County-wide emergency, safety and mitigation plans through collaboration with all County agencies.	1
4F. Loss of Communications/Multi-hazard – The County shall develop a new wireless communication ordinance which would require discretionary permitting for new communication towers, as well as significant alterations of existing facilities. Consideration of provision for emergency service communication needs shall be a component of any such entitlement.	1
4G. Loss of Communications – Develop a radio frequency plan created, implemented and adopted by multi-agencies, allowing all agencies, local and visiting, involved in disasters to use corresponding frequencies. Existing USFS plan could be used for guidance.	1
1D. Widespread Disease – Promote vaccination through public education and outreach.	
2C. Dam Failure - The County shall continue to work with FEMA, and other agencies of interest, on maintaining the accreditation of the levee system in Weaverville to the extent practical. (SE)	
2D. Widespread Disease – Develop and implement Continuity of Operations plans for all partners – private, governmental and non-profit.	
2E. Widespread Disease – Identify, develop and secure funding to acquire resource caches of equipment and supplies necessary for essential services during pandemics.	
2G. Severe Weather – Explore, identify, develop and secure funding for acquisition of snow removal equipment.	
4B. Dam Failure - Discourage high-density development in areas that lay within the area of inundation for any of the dams: Lewiston, Buckhorn, Trinity, Matthews, Ewing and Jones Ranch.(SE)	
4D. Widespread Disease – Increase the County's ability to react quickly to a health crisis through multi-agency and general public trainings, workshops, exercises, and education.	
4E. Widespread Disease – Develop a Public Health Policy establishing when schools should be closed due to a health hazard.	
4I. Drought – Encourage water suppliers to monitor their supplies and develop shortage and emergency policies relative to their systems.	